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SCIENTIFIC SURVEY

OF

Porto Rico and the Virgin Islands

VOLUME VIII—Part 1

Botany of Porto Rico and the Virgin Islands

Mycology

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With contributions by Rafael A. Toro; F. D. Kern and H. H. Whetzel; and L. O. Overholts

NEW YORK:
PUBLISHED BY THE ACADEMY
1926

[Issued December 29, 1926]

PREFACE.

The term mycology is here used in the broad sense including not alone the study of fungi, but also the slime-moulds and bacteria. During Spanish occupation of Porto Rico, little attention was given to mycology, the earliest recorded collection being that of Carl Schwanecke made during his residence in Porto Rico, 1847–1850. The fungi of this collection, consisting of seventeen species, were determined and published by J. F. Klotzsch. A second and larger collection was made by P. Sintenis, 1884–1887, the determinations being made by J. Bresadola, P. Hennings and P. Magnus.

Since annexation by the United States the work has been greatly extended through the operations of the Insular Department of Agriculture and by a number of botanists who have visited the island for longer or shorter periods. Among these are A. A. Heller and Mrs. Heller, during the early part of 1900; G. P. Clinton in 1904; and E. W. D. Holway in 1910. Numerous collections of fungi have also been made by Dr. and Mrs. N. L. Britton and other collectors from the staff of The New York Botanical Garden at intervals from 1906 until the present time.

Bruce Fink of Miami University, Ohio, visited the island in 1915 primarily for the collection and study of lichens but brought back a goodly number of fungi. The same year H. H. Whetzel and E. W. Olive spent several weeks in Porto Rico devoting most of their time to researches on the rusts. Their collections have been studied and reported on by J. C. Arthur.

Probably the largest single collection of fungi was that obtained by F. L. Stevens during the years of his residence as Dean of the College of Agriculture at Mayaguez. His collection of rusts was also studied by J. C. Arthur and reported by him. Other groups of fungi have been studied by Professor F. L. Stevens and his collaborators at the University of Illinois and reported on at various times.

In 1923, Dr. Seaver, at the request of the Porto Rican government, spent several weeks in company with Dr. and Mrs. N. L. Britton, exploring Porto Rico and the Virgin Islands. Mr. Chardon,

then connected with the Insular Experiment Station at Rio Piedras, collaborated with us during our stay in Porto Rico. More than a thousand collections of fungi were made including many additional species for the region.

In 1924 H. H. Whetzel of Cornell University made a second trip to Porto Rico, this time accompanied by F. D. Kern of The Pennsylvania State College to continue work on plant rusts. On most of their excursions they were accompanied by Rafael A. Toro of the Experiment Station at Rio Piedras. This expedition again resulted in adding much new material to the store already accumulated. Part of the results of this work has been reported in preliminary papers and the remainder is incorporated in the present work.

Local students, especially those connected with the Department of Agriculture, have added their contributions, so that the fungi of Porto Rico are now probably better known than those of any equal area in the American tropics. Our knowledge of the plant rusts is particularly complete. But notwithstanding this, some groups of the fungi have scarcely been investigated and are still in need of intensive study.

While the fungi of Porto Rico have been rather carefully studied, the Virgin Islands were, so far as we are aware, unexplored by American mycologists until our visit in 1924, although a few species had been reported by European students. For this reason the two weeks spent on the larger islands, St. Thomas and St. Croix were full of interest. About fifty per cent of the fungi collected were new to the islands and a fair number new to science. The results of this work have been reported in preliminary papers and incorporated in the present work with detailed citations.

In 1918, J. A. Stevenson, at that time Pathologist at the Insular Experiment Station, published "A check list of Porto Rican fungi and a host index." This was a very complete summary of our knowledge of the fungi of Porto Rico up to that time, and has been invaluable to us in the preparation of the present catalogue.

For the determination of hosts we are indebted to Dr. N. L. Britton and Mr. Percy Wilson and for bibliographical aid to Dr. J. H. Barnhart.

DESCRIPTIVE FLORA.

Phylum 4. **THALLOPHYTA.**

Plants not differentiated into leaf and stem, one to many-celled, with or without chlorophyl, reproducing by direct cell-division (fission) or by means of special reproductive bodies known as spores which may be formed either sexually or asexually.

Plant tissues partially or entirely chlorophylless.	
Thallus entirely chlorophylless.	
Vegetative stage devoid of cell-wall.	Class 1. MYXOMYCETES.
Vegetative stage possessing cell-wall.	
Reproducing by fission, without mycelia structure.	Class 2. SCHIZOMYCETES.
Reproducing by means of spores, usually possessing mycelium.	Class 3. FUNGI.
Thallus consisting of chlorophylless (fungous) tissue and chlorophyl-bearing (algal) tissue.	Class 4. LICHENES.
Plant tissues chlorophyl-bearing.	Class 5. ALGAE.

Class 1. **MYXOMYCETES.***

The Myxomycetes, commonly known as slime-moulds, comprise a large group of living organisms of doubtful affinity. Some include them with the animal kingdom, others with the vegetable. While the vegetative stage is animal-like, consisting of living, moving protoplasm, the fruiting stage is fungus-like so that the group is often treated with the fungi. The most of the forms are saprophytic and of no known economic importance while a few are known to be the cause of serious diseases of the higher plants.

Sub-class **PHYTOMYXINAE.**

1. **PLASMODIOPHORA** Woronin, Jahrb. Wiss. Bot. **11**: 548. 1878.

Plasmodiophora vascularum Matz, Jour. Dept. Agr. Porto Rico **4**: 45. 1920.

On *Saccharum officinarum* L., Porto Rico:—Barbados. According to M. T. Cook, causing much injury to this most important host.

Sub-class **EXOSPOREAE.**

Family 1. **CERATIOMYXACEAE.**

1. **CERATIOMYXA** Schröt. in E. & P. Nat. Pfl. 1^1: 16. 1897.

1. **Ceratiomyxa fruticulosa** (Muell.) Macbr. N. Am. Slime-moulds ed. 1. 18. 1899.

Byssus fruticulosa Muell. Fl. Dan. *pl. 718, f. 2.* 1777.

On rotten wood, Porto Rico:—probably world wide.

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* Based on determinations made by Dr. W. C. Sturgis for J. A. Stevenson and by Professor T. H. Macbride and Mr. Robert Hagelstein for the present authors.

Sub-class **MYXOGASTRES.**

Spore mass black or violaceous, rarely ferruginous.
- Capillitium present and well-developed, thread-like; sporangia calcareous more or less throughout. — Order 1. PHYSARALES.
- Capillitium present and usually arising from a well-developed columella; sporangia not calcareous except in a single genus; and then confined to the columella. — Order 2. STEMONITALES.

Spore mass never black, usually some shade of brown or yellow, rarely purplish or rosy.
- Capillitium none or very poorly developed; spores some shade of brown, rarely purple. — Order 3. CRIBRARIALES.
- Capillitium present and usually well-developed.
  - Capillitium by outward interweaving making up the aethalial wall; spores pale, ashen. — Order 4. LYCOGALALES.
  - Capillitium made up of more or less distinctly sculptured threads; spores commonly yellow. — Order 5. TRICHIALES.

Order 1. **PHYSARALES.**

Sporangia often calcareous throughout; capillitium intricate. — Fam. 1. PHYSARACEAE.

Sporangia with calcareous deposits limited to peridium or sometimes the stipe; capillitium simple. — Fam. 2. DIDYMIACEAE.

Family 1. **PHYSARACEAE.**

1. **CRATERIUM** Trentepohl in Roth, Catalecta **1:** 224. 1797.

1. **Craterium aureum** (Schum.) Rost. Sluz. Monog. 124. 1875.

Trichia aurea Schum. Enum. Pl. Saell. **2:** 208. 1803.

On humus and cane trash, occasionally on living stalks and leaves, Porto Rico:—continental North America; Europe.

2. **Craterium leucocephalum** (Pers.) Ditm.; Sturm, Deutsch Fl. Pilze **1:** 21. 1817.

Arcyria (?) *leucocephala* Pers. Syn. Fung. 183. 1801.

On dead leaves and debris, occasionally fruiting on living sugar cane, Porto Rico:—continental North America; Europe.

2. **DIACHEA** Fries, Syst. Orb. Veg. **1:** 143. 1825.

1. **Diachea bulbilloso** (Berk. & Br.) Lister, Mycetozoa ed. 2. 119. 1911.

Didymium bulbillosum Berk. & Br. Jour. Linn. Soc. **14:** 84. 1875.
Porto Rico:- widely distributed.

2. **Diachea leucopodia** (Bull.) Rost. Sluz. Monog. 190. 1875.

Trichia leucopodia Bull. Herb. Fr. *pl. 502, f. 2.* 1791.

On dead grass and leaves. Reported on *Pitcairnia angustifolia* (Sw.) Redoute, Porto Rico:—continental North America; Europe.

3. **DIDERMA** Pers. Neues Mag. Bot. **1:** 89. 1794.

1. **Diderma effusum** (Schw.) Morg. Jour. Cin. Soc. **16:** 155. 1894.

Physarum effusum Schw. Trans. Am. Phil. Soc. II. **4:** 257. 1832.

On dead leaves of *Pandanus utilis* Bory, Porto Rico:—continental North America.

2. **Diderma hemisphericum** (Bull.) Horne, Fl. Danica **33:** 13. 1829.

Reticularia hemispherica Bull. Herb. Fr. *pl. 446.* 1789.

On dead leaves, Porto Rico:—widely distributed,

3. **Diderma spumarioides** Fries, Syst. Myc. **3:** 104. 1829.

On dead leaves and rotten wood, Porto Rico:—continental North America; Europe.

4. **FULIGO** Haller, Hist. Helv. **3:** 110. 1768.

1. **Fuligo septica** (L.) Weber; Wigg. Pr. Fl. Holsat. 112. 1780.

Mucor septicus L. Sp. Pl. ed 2. 1656. 1753.

On dead cane leaves, banana debris and rotten wood, Porto Rico:—probably world wide in distribution.

This widely distributed species has many forms and phases as stated by Macbride in his latest edition of the North American Slime-moulds. Five forms are recognized by him as follows: *F. ovata, F. rufa, F. laevis, F. flava* and *F. violacea.* Whether one or all of these forms occur in Porto Rico has not been determined.

5. **PHYSARUM** Pers. Ann. Bot. Usteri **15:** 5. 1795.

1. **Physarum bitectum** Lister, Mycetozoa ed. 2. 78. 1891.

On dead leaves of *Clusia,* Porto Rico:—continental North America.

According to Macbride this is probably a variety of *Physarum sinuosum* (Bull.) Weinm.

2. **Physarum bogoriense** Racib. Hedwigia **37:** 52. 1898.

Porto Rico:—widely distributed.

3. **Physarum cinereum** (Batsch) Pers. in Neues Mag. Bot. **1:** 88. 1794.

Lycoperdon cinereum Batsch, Elench. Fung. **1:** 155, 1783.

Fruiting on living leaves of *Lactuca sativa* L., *Phaseolus vulgaris* L., *Saccharum officinarum* L., *Vigna unguiculata* (L.) Walp. and other hosts, Porto Rico:—continental North America; Europe.

4. **Physarum compressum** Albert. & Schw. Consp. Fung. 97. 1805.

On sugar cane debris, Porto Rico:—continental North America; Europe.

5. **Physarum didermoides** (Pers.) Rost. Sluz. Monog. 97. 1875.

Spumaria (?) *didermoides* Pers. Syn. Fung. XXIX. 1801.

On rotten wood, Porto Rico:—probably world wide in distribution.

6. **Physarum melleum** (Berk. & Br.) Massee, Monog. 278. 1892.

Didymium melleum Berk. & Br. Jour. Linn. Soc. **14:** 83. 1873.

On dead leaves, Porto Rico:—continental South America; Europe; Japan. Macbride states tropical islands round the world.

7. **Physarum nodulosum** Cooke & Balf. in Rav. Fungi Am. *479.* 1881.

On rotten sacking and also on the living leaves of *Saccharum officinarum,* L. Porto Rico:—continental North America; Europe.

This has been previously reported under the name of *Physarum pusillum* (Berk. & Curt.) Lister which Macbride in his latest edition of the North American Slime-moulds considers a synonym of the above.

8. **Physarum tenerum** Rex, Proc. Acad. Phila. **1890:** 192.

Porto Rico:—widely distributed.

9. **Physarum viride** (Bull.) Pers. Ann. Bot. Usteri **15:** 6. 1795.

Sphaerocarpus viridis Bull. Herb. Fr. *pl. 407, f. 1.* 1788.

On rotten wood, Porto Rico:—widely distributed.

10. **Physarum wingatense** Macbr. N. Am. Slime-moulds ed. 2. 72. 1922.

On rotten wood, Porto Rico:—continental North America.

This has been reported from Porto Rico under the name of *Physarum columbinum* (Rost.) Sturgis with *Tilmadoche compacta* (Wing.) Macbr. as a synonym. Macbride in his latest edition of "North American Slime-moulds" considers the former determination doubtful and since the latter name would become untenable in the genus *Physarum* proposed the name listed above.

Family 2. **DIDYMIACEAE.**

1. **DIDYMIUM** Schrad. Nov. Gen. Pl. 20. 1797.

1. **Didymium nigripes** (Link) Fries, Syst. Myc. **3:** 119. 1829.

Physarum nigripes Link, Ges. Nat. Freunde Berlin Mag. **3:** 27. 1809.

Fruiting on living leaves of *Commelina longicaulis* Jacq. Host previously reported as *Commelina nudiflora* L., Porto Rico:—continental North America; Europe.

2. **Didymium squamulosum** (Albert. & Schw.) Fries, Syst. Myc. **3:** 118. 1829.

Diderma squamulosum Albert. & Schw. Consp. Fung. 88. 1805.

On dead leaves, Porto Rico:—continental North America.

Order 2. **STEMONITALES.**

Columella branched throughout.	Fam. 1. STEMONITACEAE.
Columella branched only from the top.	Fam. 2. LAMPRODERMACEAE.

Family 1. **STEMONITACEAE.**

1. **COMATRICHA** Preuss, Linnaea **24:** 140. 1851.

1. **Comatricha longa** Peck, Ann. Rep. N. Y. State Mus. **43:** 24. 1890.

On dead wood, Porto Rico:—continental North America.

2. **Comatricha typhoides** (Bull.) Rost.; Lister, Mycetozoa ed. 2. 157. 1911.

Trichia typhoides Bull. Herb. Fr. *pl. 477, f. 2.* 1791.

On dead wood, Porto Rico:—continental North America; Europe.
One of the commonest North American species.

2. **STEMONITIS** (Gleditsch) Weber; Wigg. Pr. Fl. Holsat. 110. 1780.

1. **Stemonitis fusca** Roth, Mag. Bot. **2:** 26. 1787.

On old wood, Porto Rico:—continental North America; Europe.

2. **Stemonitis herbatica** Peck, Ann. Rep. N. Y. State Mus. **26:** 75. 1874.

On rotten wood, Porto Rico:—continental North America; also reported from Europe.

3. **Stemonitis nigrescens** Rex, Proc. Acad. Phila. **1891:** 392. 1891.

On sugar cane trash, Porto Rico:—continental North America.

Reported under the name of *Stemonitis fusca* Roth which Macbride in his North American Slime-moulds regards as a synonym of the above.

4. **Stemonitis splendens** Rost. Sluz. Monog. 195. 1875.

On rotten wood, Porto Rico; St. Thomas:—continental North and South America.

In addition to material previously reported from Porto Rico, an excellent collection was made on the island of St. Thomas and reported in Mycologia **16:** 4. 1924.

Family 2. **LAMPRODERMACEAE.**

1. **LAMPRODERMA** Rost. Versuch. Mycet. 7. 1873.

1. **Lamproderma arcyrionema** Rost. Sluz. Monog. 208. 1885.

On mossy log, Porto Rico:—widely distributed.

Order 3. **CRIBRARIALES.**

Fructification of distinct and separate sporangia, the walls more or less reticulately perforate especially above. Fam. 1. CRIBRARIACEAE.

Fructification aethalioid.

The sporangia more or less tubular, often prismatic by mutual pressure, opening by rupture at the apex, the lateral walls entire. Fam. 2. TUBIFERACEAE.

The sporangia not well defined, their walls more or less perforate and frayed, forming a pseudo-capillitium. Fam. 3. RETICULARIACEAE.

Family 1. **CRIBRARIACEAE.**

1. **CRIBRARIA** Pers. Neues Mag. Bot. **1:** 91. 1794.

1. **Cribraria microcarpa** (Schrad.) Pers. Syn. Fung. 190. 1801.

Dictydium microcarpum Schrad. Nova Gen. Pl. 13. 1797.

On wood, Porto Rico:—continental North America; Europe.

2. **DICTYDIUM** Schrad. Nov. Gen. Pl. 11. 1797.

1. **Dictydium cancellatum** (Batsch) Macbr. N. Am. Slime-moulds ed. 1. 172. 1899.

Mucor cancellatus Batsch, Elench. Fung. **3:** 135. 1789.

On dead sugar cane stalks and leaves, Porto Rico:—continental North America; Europe. Probably widely distributed.

Family 2. **TUBIFERACEAE.**

1. **TUBIFERA** Gmel. Syst. Nat. **2:** 1472. 1791.

1. **Tubifera ferruginosa** (Batsch) Macbr. N. Am. Slime-moulds ed. 1. 156. 1899.

Stemonitis ferruginosa Batsch, Elench. Fung. **2:** 261. 1786.

On rotten wood, Porto Rico:—continental North America; Europe. Macbride states, "apparently more common north than south."

Family 3. **RETICULARIACEAE.**

1. **RETICULARIA** Bull. Herb. Fr. *pl. 446.* 1789.

1. Reticularia Lycoperdon Bull. Herb. Fr. *pl. 446, f. 4.* 1789.

On old wood, Porto Rico:—continental North America; Europe.

Order 4. **LYCOGALALES.**

Family 1. **LYCOGALACEAE.**

1. **LYCOGALA** (Micheli) Pers. Neues Mag. Bot. **1**: 87. 1794.

1. Lycogala epidendrum (L.) Fries, Syst. Myc. **3**: 80. 1829.

Lycoperdon epidendrum L. Sp. Pl. ed 1. 1184. 1753.

On rotten wood and sugar cane trash, Porto Rico:—widely distributed. Probably world wide.

Order 5. **TRICHIALES.**

Capillitium a distinct net, usually attached below to the sporangial wall; sculpturing various, not continuous spiral bands. Fam. 1. ARCYRIACEAE.

Capillitium not a distinct net, threads typically free or forming a loose net attached below; sculpturing consisting of spiral bands or scattered rings. Fam. 2. TRICHIACEAE.

Family 1. **ARCYRIACEAE.**

1. **ARCYRIA** Weber; Wigg. Pr. Fl. Holsat. 109. 1780.

1. Arcyria cinerea (Bull.) Pers. Syn. Fung. 184. 1801.

Trichia cinerea Bull. Herb. Fr. *pl. 477, f. 3.* 1789.

On rotten wood and sugar cane trash, Porto Rico:—continental North America; Europe.

2. Arcyria denudata (L.) Macbr. N. Am. Slime-moulds ed. 1. 195. 1899.

Clathrus denudatus L. Sp. Pl. ed. 1. 1179. 1753.

On rotten wood and sugar cane trash, Porto Rico:—continental North America; Europe.

3. Arcyria incarnata Pers. Obs. Myc. **1**: 58. 1796.

Stemonitis incarnata Pers.; Gmel. Syst. Nat. **2**: 1467. 1796.

On rotten wood, Porto Rico:—continental North America; Europe.

4. Arcyria punicea Pers. Neues Mag. Bot. **1**: 90. 1794.

Reported from the Schwanecke collection, Porto Rico:—continental North America; Europe.

Macbride in "North American Slime-moulds" regards this as synonymous with *A. denudata.*

Family 2. **TRICHIACEAE.**

1. **HEMITRICHIA** Rost. Versuch Mycet. 14. 1873.

1. Hemitrichia clavata (Pers.) Rost. Sluz. Monog. 264. 1875.

Trichia clavata Pers. Neues Bot. Mag. **1**: 90. 1794.

On rotten wood, Porto Rico:—continental North America; Europe. Widely distributed.

2. **Hemitrichia serpula** (Scop.) Rost. Sluz. Monog. 266. 1875.
Mucor serpula Scop. Fl. Carn. **2**: 493. 1772.
On decaying stems, Porto Rico:—continental North America; Europe.

3. **Hemitrichia vesparium** (Batsch) Macbr. N. Am. Slime-moulds ed. 1. 203. 1899.
Lycoperdon vesparium Batsch, Elench. Fung. **2**: 253. 1786.
On rotten wood, Porto Rico:—continental North America; Europe.

Class 2. SCHIZOMYCETES.

This group of microorganisms commonly known as bacteria is doubtless represented by many species in Porto Rico as elsewhere. No special attempt has been made to study them taxonomically and the few listed here are those which have been found to be the cause of diseases of the higher plants or have been encountered in connection with the work in plant pathology.

Plants not filamentous.	
Cells when free globular.	Fam. 1. COCCACEAE.
Cells elongated or rod-like.	Fam. 2. BACTERIACEAE.
Plants filamentous.	Fam. 3. ACTINOMYCETACEAE.

Family 1. COCCACEAE.

1. **MICROCOCCUS** Cohn, Beitr. Biol. Pfl. 1^2: 151. 1875.

1. **Micrococcus nigrofaciens** Northrup, Mich. Agr. Exp. Sta. Tech. Bull. **18**: 12. 1914.

Reported as causing disease of various phases of *Phyllophaga* spp., Porto Rico:—continental North America.

Family 2. BACTERIACEAE.

1. **BACILLUS** Cohn, Beitr. Biol. Pfl. 1^2: 174. 1872.

1. **Bacillus carotovorous** Jones, Centralb. Bakt. Parasit. Infect. **7**: 12. 1901.

Occurring on and producing soft rot of carrots, cabbages, celery, and other vegetables, Porto Rico:—continental North America.

2. **Bacillus campestris** Pammel, Iowa Agr. Exp. Sta. Bull. **27**: 130. 1895.
On *Brassica oleracea* L., Porto Rico:—continental North America.

3. **Bacillus mesentericus** [fuscus] (Flügge) Lehm. & Neum. Atlas Bakt. 300. 1896.
Bacillus mesentericus fuscus Flügge, Die Mikroorganismen. ed 2. 321. 1886.
Reported as causing "ropy" bread, Porto Rico:—widely distributed.

4. **Bacillus prodigiosus** (Ehr.) Flügge, Die Mikroorganismen ed. 2. 284. 1886.

Reported as causing contamination in culture plates, Porto Rico:—widely distributed.

5. **Bacillus subtilis** (Ehr.) Cohn. Beitr. Biol. Pfl. 1^2: 175. 1875.
Vibrio subtilis Ehr. Infus. 80. 1838.
Reported as common on poured culture plates, Porto Rico:—widely distributed.

6. **Bacillus vascularum** Cobb, Dis. Sugar Cane 1. 1893.

Occasionally found as the cause of a disease of sugar cane, Porto Rico:—New South Wales, Queensland, Figi Islands. Mauritius, Java, Borneo, New Guinea, Brazil.

2. **BACTERIUM** Ehr. Symb. Phys. 8. 1828.

1. **Bacterium abortus** Bang. Zeit. Thier. **1897:** 241.

Causing abortion in cattle, Porto Rico:—continental America. Reported as a *Bacillus.*

2. **Bacterium Phaseoli** Er. Smith, Proc. Am. Assoc. Adv. Sci. **46:** 288. 1898.

On *Phaseolus vulgaris* L., Porto Rico:—continental North America. Causing a serious disease of the leaves and pods.

3. **Bacterium Solanacearum** Er. Smith, U. S. Dept. Agr. Div. Veg. Phys. & Path. Bull. **12:** 5. 1896.

On *Lycopersicon Lycopersicon* (L.) Karst., *Nicotiana Tabacum* L., *Solanum Melongena* L., *Solanum tuberosum* L., Porto Rico:—continental North America. Probably widely distributed.

A wilt disease of *Helianthus annuus* L. is thought to be caused by this organism.

3. **PSEUDOMONAS** Migula, Arb. Bact. Inst. Karlsruhe **1:** 237. 1894.

1. **Pseudomonas radicicola** (Beyerinck) Moore, U. S. Dept. Agr. Bur. Pl. Ind. **71:** 27. 1905.

Bacillus radicicola Beyerinck, Bot. Zeit. **46:** 726. 1888.

Occurring as a parasite on the roots of leguminose plants and giving rise to root-tubercles. Although parasitic on the host plant the parasite appears to be beneficial and the two thus live together in a symbiotic relationship. Through the ability of the parasite to fix nitrogen the leguminose hosts are used as soil enrichers.

2. **Pseudomonas tumefaciens** (Smith & Townsend) Stevens, Fungi Pl. Dis. 35. 1913.

Bacterium tumefaciens Smith & Townsend, Science II. **25:** 672. 1907.

The organism of the crown gall commonly known as "plant cancer" because of its resemblance to the animal cancer. The organism is here reported on the strength of galls found on rose bushes near Arecibo during the recent collecting trip of the senior writer. No attempt was made to isolate the organism.

Family 3. **ACTINOMYCETACEAE.**

1. **ACTINOMYCES** Harz, Jahresb. München Central-Thier. 1878.

1. **Actinomyces scabies** (Thaxt.) Gussow, Science II. **39:** 433. 1914.

Oospora scabies Thaxt. Conn. Agr. Exp. Sta. Rep. **1891:** 159.

Reported from Porto Rico by Cook under the name of *Actinomyces chromogenus* which is now regarded as a synonym of the above.

Class 3. **FUNGI.**

Sub-class 1. **PHYCOMYCETES.**

The Phycomycetes are known as the algal fungi because of their structural resemblance to the algae. Many are aquatic and those which are not require very

moist conditions. Swimming spores are commonly produced by the plants of this group even though they are not strictly aquatic, indicating their aquatic origin. Such forms as the water-moulds, fish-moulds, downy mildews, and black bread-mould are included here.

Mycelium wanting or poorly developed; sexual reproduction usually wanting; parasitic on algae, protozoans or rarely on spermatophytes.	Order 1. CHYTRIDIALES.
Mycelium well developed; asexual reproduction by aerial conidia or sporangia.	
Saprophytic, epiphytic or parasitic on other plants.	
Parasitic on spermatophytes.	Order 2. PERONOSPORALES.
Saprophytic, or parasitic on other fungi.	Order 3. MUCORALES.
Parasitic or saprophytic on insects.	Order 4. ENTOMOPHTHORALES.

Order 1. CHYTRIDIALES.

The Chytridiales are parasitic fungi of simple structure often consisting of a single cell. They live on other plants and animals such as protozoans, desmids, algae and other fungi. Some also occur as parasites on the stems and leaves of the higher plants.

Sporangia produced singly.	Fam. 1. OLPIDIACEAE.
Sporangia produced in sori.	Fam. 2. WORONINACEAE.

Family 1. OLPIDIACEAE.

1. **OLPIDIUM** A. Braun, Abh. Berl. Akad. **1855**: 75. 1855.

1. **Olpidium Uredinis** (Lagerh.) Fischer; Rab. Krypt-Fl. 1^4: 30. 1892.

On *Puccinia levis* (Sacc. & Bizz.) Magn. on *Rytilix granularis* (L.) Skeels, Porto Rico:—Europe.

Family 2. WORONINACEAE.

1. **WORONINELLA** Racib. Zeit. Pflanzenkr. **8**: 195. 1898.

1. **Woroninella Dolicholi** (Cooke) Syd. Ann. Myc. **12**: 485. 1914.

Aecidium Dolicholi Cooke, Grevillea **10**: 127. 1882.

On *Dolicholus reticulatus* (Sw.) Millsp., Porto Rico; St. Croix:—continental North America.

This species was collected rather abundantly on Mt. Eagle, St. Croix where it was found to form gall-like growths on the stems and leaves of the above named species of *Dolicholus*.

Order 2. PERONOSPORALES.

The Peronosporales represent an order of parasitic fungi including the "white rusts" and "downy mildews." This group includes two of the most destructive parasites known, the "grape mildew" and the "potato blight," the latter often being responsible for the destruction of a large per cent of the potato crop wherever this plant is grown. Both of these species have been reported from Porto Rico.

Conidiophores club-shaped, formed under the epidermis of the host; conidia formed in chains in white masses under the epidermis of the host.	Fam. 1. ALBUGINACEAE.
Conidiophores formed outside the epidermis of the host; conidia formed singly, never in chains.	Fam. 2. PERONOSPORACEAE.

Family 1. **ALBUGINACEAE.**

1. **ALBUGO** (Pers.) S. F. Gray, Nat. Arr. Brit. Pl. **1**: 540. 1821.

Uredo § *Albugo* Pers. Syn. Fung. 223. 1801.

1. **Albugo Bliti** (Biv.) Kuntze, Rev. Gen. Pl. **2**: 658. 1891.

Uredo Bliti Biv. Stirp. Rar. Silicia **3**: 658. 1891.

On *Amaranthus gracilis* Desf. and *A. viridis* L., *Centrostachys aspera* (L.) Standley [*Achyranthes aspera* L.], Porto Rico; St. Croix:—Guadaloupe; Grenada; continental America: Europe; Asia; Africa.

One collection (Seaver & Chardon *418*) was made on *Centrostachys aspera*. This is apparently a new host for this fungus.

2. **Albugo candida** (Pers.) Kuntze, Rev. Gen. Pl. **2**: 658. 1891.

Aecidium candidum Pers. in Gmel. Syst. Nat. **2**: 1473. 1791.

On *Boerhaavea erecta* L., and *Lepidium virginicum* L., Porto Rico; *Brassica integrifolia* (West) O. E. Schulz, St. Croix:—Cuba; Bermuda; continental America; Asia; Africa; Australia; New Zealand.

3. **Albugo Ipomoeae-panduraneae** (Schw.) Swingle, Jour. Myc. **7**: 112. 1892.

Aecidium Ipomoeae-panduraneae Schw. Schr. Nat. Ges. Leipzig. **1**: 69. 1822.

On *Ipomoea Batatas* (L.) Lam., *I. Pes-caprae* (L.) Roth., *I. tiliacea* (Willd.) Choisy, *I. aegyptia* L., *Jacquemontia nodiflora* (Desv.) G. Don, *J. pentantha* (Jacq.) G. Don, Porto Rico; *Quamoclit coccinea* (L.) Moench, *Ipomoea Pes-caprae* (L.) Roth., St. Jan.; St. Croix:—Bahamas; Cuba; Trinidad; continental America; Europe; Asia; Africa.

Very commonly found infecting sweet potatoes. On *Ipomoea Pes-caprae* (L.) Roth., a seashore trailing plant, the colonies of sori cause very characteristic malformations of the leaves.

4. **Albugo platensis** (Speg.) Swing. Jour. Myc. **7**: 113. 1892.

Cystopus platensis Speg. Rev. Argent. Hist. Nat. **1**: 32. 1891.

On *Boerhaavea erecta* L., *B. coccinea* Mill. [*B. hirsuta* Jacq.], Porto Rico:—Cuba; Bahamas; Guadeloupe; Antigua; Martinique; continental America; Asia; Africa.

5. **Albugo Portulacae** (DC.) Kuntze, Rev. Gen. Pl. **2**: 658. 1891.

Uredo Portulacae DC. Fl. Fr. **6**: 88. 1815.

On *Portulaca oleracea* L., Porto Rico:—Trinidad; continental America; Europe; Asia; Africa.

A rare species, known only from two collections from the island.

Family 2. **PERONOSPORACEAE.**

1. **PSEUDOPERONOSPORA** Rostow. Ann. Inst. Agron. Mosc. **9**: 47. Ja. 1903.—Flora **92**: 422. O 1903.

1. **Pseudoperonospora cubensis** (Berk. & Curt.) Rostow. Ann. Inst. Agron. Mosc. **9**: 47. Ja 1903.—Flora **92**: 422. O 1903.

Peronospora cubensis Berk. & Curt. Jour. Linn. Soc. **10**: 363. 1868.

Peronoplasmopara cubensis Clinton, Conn. Agr. Exp. Sta. Rep. **28**: 335. 1904.

On *Cucumis Melo* L., *Cucumis sativus* L., *Pepo moschata* (Duch.) Britton [*Cucurbita moschata* Duch.], *Luffa cylindrica* (L.) M. J. Roem., Porto Rico:—Cuba; continental North America.

2. **Pseudoperonospora portoricensis** (Lamkey) comb. nov.

Peronoplasmopora portoricensis Lamkey; Stevens, Mycologia **12**: 52. 1920.

On *Melia Azedarach* L., Porto Rico:—endemic.

2. **PHYTOPHTHORA** De Bary, Jour. Roy. Agr. Soc. England II. **12**: 240. 1876.

1. **Phytophthora infestans** (Mont.) De Bary, Jour. Roy. Agr. Soc. Engl. II. **12**: 240. 1876.

Botrytis infestans Mont. Mém. Inst. Fr. **1845**: 313. 1845.

On *Solanum tuberosum* L., *Lycopersicon Lycopersicon* (L.) Karst., Porto Rico: —continental America; Europe; Asia; Africa; Australia.

2. **Phytophthora Phaseoli** Thaxt. Bot. Gaz. **14**: 274. 1889.

On *Phaseolus lunatus* L., Porto Rico:—continental America; Europe.

3. **Phytophthora terrestris** Sherb. Phytopathology **7**: 127. 1917.

On *Capsicum annuum* L., *Phaseolus vulgaris* L., *Lycopersicon Lycopersicon* (L.) Karst., Porto Rico:—continental North America.

Note,—In addition to the above, *P. Faberi* Maubl. has recently been reported as cause of bud rot in *Cocos nucifera*.

3. **RHYSOTHECA** G. W. Wilson, Bull. Torrey Club. **34**: 398. 1907.

1. **Rhysotheca viticola** (Berk. & Curt.) G. W. Wilson, Bull. Torrey Club **34**: 407. 1907.

Botrytis viticola Berk. & Curt. Jour. Hort. Soc. London **6**: 289. 1851. (hyponym).

Peronospora viticola De Bary, Ann. Sci. Nat. IV. **20**: 124. 1863.

Reported on *Vitis* sp., Porto Rico:—coextensive with the grape, throughout the world.

Order 3. MUCORALES.

The order Mucorales includes the more common moulds and are for the most part saprophytic on other plant substances. Even as saprophytes they may be responsible for a great deal of damage to food material especially to fruits in storage.

Asexual reproduction by spores inclosed in sporangia; conidia wanting; sporangia with columella.	
Sporangial wall uniform throughout, dissolving or disintegrating, not cutinized.	Fam. 1. MUCORACEAE.
Sporangial wall cutinized in the upper portion which is persistent, the lower thin and deliquescing.	Fam. 2. PILOBOLACEAE.
Asexual reproduction by spores borne in a sporangium and conidia.	Fam. 3. CHOANOPHORACEAE.

Family 1. MUCORACEAE.

1. **RHIZOPUS** Ehr. Nova Acta Acad. Leop. **10**: 198. 1820.

1. **Rhizopus nigricans** Ehr. Nova Acta Acad. Leop. **10**: 198. 1829.

On decaying vegetables and as contamination in laboratory cultures, Porto Rico:—continental America; Europe.

Family 2. **PILOBOLACEAE.**

1. **PILOBOLUS** Tode, Fungi Meckl. **1**: 41. 1790.

1. **Pilobolus crystallinus** (Weber) Tode, Fungi Meckl. **1**: 41. 1790.
   Hydrogera crystallina Weber; Wigg. Fl. Holsat. 110. 1780.
   On horse dung, Porto Rico:—continental America; Europe.

Family 3. **CHOANOPHORACEAE.**

1. **CHOANEPHORA** Cunningham, Trans. Linn. Soc. II. **1**: 409. 1878.

1. **Choanephora Cucurbitarum** (Berk. & Rav.) Thaxt. Rhodora **5**:102. 1903.
   Rhopalomyces cucurbitarum Berk. & Rav. Grevillea **3**: 109. 1875.
   On *Abelmoschus esculentus* (L.) Moench. Porto Rico:—continental North America.

Order 4. **ENTOMOPHTHORALES.**

The Entomophthorales, as the name implies, are parasitic on flies, grasshoppers, and the larvae of beetles and other insects. When occurring on harmful insects they may be of use in checking the ravages of such enemies.

Family 1. **ENTOMOPHTHORACEAE.**

1. **EMPUSA** Cohn, Hedwigia **1**: 60, 1855.

1. **Empusa americania** Thaxter, Mem. Bost. Soc. Nat. Hist. **4**: 179. 1888.
   On *Punellia* sp., Porto Rico:—continental North America.

2. **Empusa Fresenii** Nowak. Proc. Krak. Acad. Sci. **1883**: 171. 1883.
   On sucking insects on various host plants, Porto Rico:—Europe.

3. **Empusa sphaerosperma** (Fres.) Thaxt. Mem. Boston Soc. Nat. Hist. **4**: 172. 1888.
   Entomophthora sphaerosperma Fres. Bot. Zeit. **14**: 883. 1856.
   On *Laphygma frugiperda*, Porto Rico:—continental America; Europe.

2. **ENTOMOPHTHORA** Fres. Bot. Zeit. **14**: 883. 1856.

1. **Entomophthora Aulicae** (Reich.) Winter in Rab. Krypt.-Fl. **1**: 78. 1884.
   Empusa Aulicae Reich.; Bail, Pilzepizootien 1. 1869.
   On *Ecpantheria eridanus*, Porto Rico:—Europe.

Sub-class 2. **ASCOMYCETES.**

This sub-class comprises one of the two great groups of the fungi and the many species are characterized by having their spores produced in closed sacs or asci from which they are forcibly ejected at maturity. The group includes a large number of parasitic species although many are saprophytes of no known economic importance.

Vegetative mycelium usually wanting; asci not formed in special fruiting bodies.	Order 1. SACCHAROMYCETALES.
Vegetative mycelium present; asci formed in or on special fruiting bodies.	
Asci produced in a stroma-like matrix.	Order 2. MYRIANGIALES.

Asci not in a stroma-like matrix.
- Asci arranged irregularly in the ascocarp. Order 3. ASPERGILLALES.
- Asci produced in a perithecium.
  - Perithecia shield-shaped. Order 4. HEMISPHAERIALES.
  - Perithecia not shield-shaped.
    - Ostiolum wanting.
      - Perithecia dehiscent. Order 5. PERISPORIALES.
      - Perithecia indehiscent. Order 6. CORYNELIALES.
    - Ostiolum present and usually evident. Order 7. PSEUDOPERISPORIALES.
      - Otherwise like Perisporiales.
      - Otherwise not like Perisporiaceae.
        - Perithecia and stromata bright colored, red, yellow, blue, etc. Order 8. HYPOCREALES.
        - Perithecia and stromata black.
          - Perithecial wall wanting. Order 9. DOTHIDEALES.
          - Perithecial wall present.
            - Perithecia soft, membranaceous; plants occurring on dung. Order 10. FIMETARIALES.
            - Perithecia and stromata when present hard and carbonaceous, or subcarbonaceous. Order 11. SPHAERIALES.
- Asci not produced in a closed perithecium but on a sporophore or apothecium and freely exposed at maturity.
  - Apothecia usually opening with a rounded or rarely irregular aperture. Order 12. PEZIZALES.
  - Apothecia opening with a slit-like aperture.
    - Fissure consisting of a simple cleft. Order 13. HYSTERIALES.
    - Fissure compound giving rise to a stellate aperture. Order 14. PHACIDIALES.

Order 1. SACCHAROMYCETALES.

Family 1. SACCHAROMYCETACEAE.

This order of plants includes the yeast plants and other low fungi. The yeasts are concerned in alcoholic fermentation and in the manufacture of bread. They are unicellular plants which reproduce by budding. Under rare conditions, however, they reproduce by the formation of spores endogenously. On account of the resemblance of these spores to those of the ascomycetes the order is usually included with the latter.

1. **PARASACCHAROMYCES** Beur. & Goug.; Anderson, Jour. Inf. Dis. **21**: 380. 1917.

1. **Parasaccharomyces psilosis** (Ashford) comb. nov.

Monilia psilosis Ashford, Amer. Jour. Med. Sci. 154: 157. Au 1917.
Parasaccharomyces Ashfordi H. W. Anderson, Jour. Inf. Diseases **21**: 380. O 1917.

Dr. Bailey K. Ashford, of the Institute of Tropical Medicine of Porto Rico, has kindly supplied the writers with the following information regarding this interesting human pathogen: "I consider this organism to be the definite factor in producing the sympton-complex known as "sprue." It colonizes in the human intestine, however, apparently only when a certain degree of acidity and an abundance of starch and sugar is furnished. It seems generally to require functional derangement of digestion, with a peculiar variety of food unbalance to provide an ideal intestinal enriching medium."

2. **SACCHAROMYCES** Meyer, Arch. Naturg. **42**: 100. 1838.

1. **Saccharomyces apiculatus** Rees, Bot. Unters. 84. 1870.

From fermenting cacao and coffee, Porto Rico:—Europe.

2. **Saccharomyces Cerevisiae** Meyen, Arch. Naturg. **42**: 100. 1838.

Bread and brewer's yeast, Porto Rico:—widely distributed.

3. **Saccharomyces ellipsoideus** Rees, Bot. Unters. 82. 1870.

From fermenting cacao, coffee and grape juice, Porto Rico:—Europe.

Order 2. **MYRIANGIALES.**

Family 1. **MYRIANGIACEAE.**

1. **MYRIANGIUM** Mont. & Berk. Hooker's Jour. Bot. **4**: 72. 1845.

1. **Myriangium Duriaei** Mont. & Berk. l. c.

On scale insects on various hosts, Porto Rico:—Cuba; continental America.

Order 3. **ASPERGILLALES.**

This order includes plants of very diverse habits, such as the underground fungi, none of which have been reported from Porto Rico, also such forms as the green moulds belonging to the genus *Penicillium* and the similar genus *Aspergillus*. Both of these genera have been placed here because some of the species have ascigerous stages. Whether all of them produce the perfect stage is a question which cannot be answered.

Family 1. **ASPERGILLACEAE.**

1. **ASPERGILLUS** (Micheli) Adans. Fam. Pl. **2**: 2. 1763.

1. **Aspergillus argentius** Speg. Rev. Agr. Univ. La Plata **1896**: 245.
Eurotium argentium Speg. Rev. Agr. Univ. La Plata **1896**: 228.

On dead sugar cane stalks, Porto Rico:—continental South America.

2. **Aspergillus flavus** Link, Ges. Nat. Freunde Berlin Mag. **3**: 16. 1809.

On *Pseudococcus Sacchari*, Porto Rico:—continental North America.
A common mold of tobacco, cloth, culture media and decaying vegetable matter.

3. **Aspergillus herbariorum** (Weber) Fischer in E. & P. Nat. Pfl. 1^1: 301.
Mucor herbariorum Weber; Wiggs. Pr. Fl. Holsat. 111. 1780.

On dried specimens in herbaria, Porto Rico:—continental America; Europe; Asia; Africa; Australia.

4. **Aspergillus niger** Van Tiegh. Ann. Sci. Nat. V. **8**: 240. 1867.

Isolated from soil; also occurring as a citrous fruit rot and on plant material in damp chamber, Porto Rico:—Europe.

5. **Aspergillus roseus** (Pers.) Link; Berk. Engl. Fl. 5^2: 340. 1836.

Monilia rosea Pers. Disp. Meth. Fung. 40. 1797.

Isolated from soil, Porto Rico:—Europe.

6. **Aspergillus terreus** Thom, Am. Jour. Bot. **5**: 85. 1918.

On musty tobacco in Porto Rico:—continental North America.

2. **CERATOCARPIA** Rolland, Bull. Soc. Myc. Fr. **12**: 2. 1896.

Perisporiopsis Stevens, Trans. Ill. Acad. Sci. **10**: 170. 1917. Not *Perisporiopsis* P. Henn. Hedwigia **43**: 83. 1904.

1. **Ceratocarpia Wrightii** (Berk. & Curt.) Toro, comb. nov.

Perisporium Wrightii Berk. & Curt. Grevillea **4**: 157. 1875.
Perisporiopsis Wrightii Stevens, l. c.

On *Opuntia* sp., Porto Rico:—continental North America.

3. **PENICILLIUM** Link, in Willd. Sp. Pl. 6^4: 69. 1824.

1. **Penicillium crustaceum** (L.) Fries, Summa. Veg. Scand. 489. 1849.

Mucor crustaceus L. Sp. Pl. Ed. 2. 1656. 1763.

On dead plant material, Porto Rico:—Europe.

2. **Penicillium digitatum** (Pers.) Sacc. Fungi Ital. *894*. 1881.

Monilia digitata Pers. Syn. Fung. 693. 1801.

On fruit of species of *Citrus*. Common in all the citrous districts of Porto Rico:—Europe.

3. **Penicillium divaricatum** Thom, U. S. Dept. Agr. Bur. Anim. Ind. Bull. 118: 72. 1910.

Isolated from soil, Porto Rico:—continental North America.

4. **Penicillium italicum** Wehmer, Hedwigia **33**: 211. 1894.

On fruit of species of *Citrus*, Porto Rico:—Europe.

5. **Penicillium lilacinum** Thom, U. S. Dept. Agr. Bur. Pl. Ind. Bull. 118: 73. 1910.

Isolated from soil, Porto Rico:—continental North America.

6. **Penicillium luteum** Zukal, Sitz.-ber. Akad. Wien **48**: 561. 1889.

Isolated from soil, Porto Rico:—Europe; continental North America.

Order 4. **HEMISPHAERIALES.**

Fred J. Seaver and Rafael A. Toro.

This order of black molds is characterized by possessing perithecia which are flat and shield-shaped instead of globose or subglobose. The perithecia are for the most part superficial as in the Perisporiales.
of shield radiate structure.

Mycelium filamentous or absent, thiriothecia superficial and free.	Fam. 1. MICROTHYRIACEAE.
Mycelium forming a membrane of radiate structure.	Fam. 2. TRICHOPELTACEAE.
Shield not of radiate structure.	Fam. 3. HEMISPHAERIACEAE.

Family 1. **MICROTHYRIACEAE.**

1. **AMAZONIA** Theiss. Ann. Myc. **11:** 499. 1913.

1. **Amazonia asterinoides** (Winter) Theiss. l. c.

Meliola asterinoides Winter, Hedwigia **25:** 96. 1886.

On *Pothomorphe peltata* (L.) Miq. [*Piper peltatum* L.], St. Thomas:—West Africa.

2. **ASTERINA** Lév. Ann. Sci. Nat. III. **3:** 59. 1845.

1. **Asterina acanthopoda** Speg. Anal. Soc. Ci. Argent. **26:** 49. 1888.

On *Psychotria* sp., Porto Rico:—continental South America.

2. **Asterina Arnaudia** Ryan, Mycologia **16:** 184. 1924.

On *Passiflora multiflora* L., *Passiflora sexflora* A. Juss., Porto Rico:—endemic.

3. **Asterina Camelliae** Syd. & Butl. Ann. Myc. **9:** 389. 1911.

On *Miconia* sp. Erroneously reported on *Miconia splendens* (Sw.) Triana, Porto Rico:—India.

4. **Asterina carbonacea** Cooke, Grevillea **8:** 96. 1880. var. **Anacardii** Ryan, Mycologia **16:** 186. 1924.

On *Anacardium* sp., *Miconia prasina* (Sw.) DC., Porto Rico:—variety endemic.

5. **Asterina Chrysophylli** P. Henn. Hedwigia **48:** 12. 1908.

On *Miconia prasina* (Sw.) DC., *Chrysophyllum oliviforme* L., Porto Rico:—continental South America.

6. **Asterina Coccolobae** Ferd. & Winge, Bot. Tidssk. **29:** 10. 1908.

On *Coccolobis uvifera* (L.) Jacq., St. Croix:—endemic.

7. **Asterina Colubrinae** Ellis & Kelsey, Bull. Torrey Club **24:** 207. 1897.

On *Colubrina reclinata* (L'Her.) Brongn., St. Croix:—endemic.

8. **Asterina coriacella** Speg. (?) Bol. Acad. Ci. Cordoba **11:** 560. 1889.

Asterina diplocarpa var. *cestricola* Ryan, Mycologia **16:** 187. 1924.

On *Cestrum laurifolium* L'Her., *Cestrum macrophyllum* Vent., Porto Rico; St. Jan:—continental South America.

9. **Asterina correacola** Cooke & Massee, Grevillea **16:** 5. 1887.

On *Miconia prasina* (Sw.) DC., Porto Rico:—Australia.

10. **Asterina dilabens** Syd. Ann. Myc. **2:** 168. 1904.

On *Rhytidophyllum auriculatum* Hook., *Solanum rugosum* Dunal, *Tetrazygia elaeagnoides* (Sw.) DC., Porto Rico:—continental South America.

Var. **Hilliae** Ryan, Mycologia **16:** 187. 1924.

On *Hillia parasitica* Jacq., Porto Rico:—variety endemic.

11. **Asterina diplocarpa** Cooke, Grevillea **10**: 129. 1882.

Asterina Sidae Earle, Bull. N. Y. Bot. Gard. **3**: 310. 1905.
Asterinia sidicola Ryan, Mycologia **16**: 181. 1924.

On *Sida carpinifolia* L.f., *Abutilon* sp.,—Porto Rico:—continental South America.

12. **Asterina Drypetis** Ryan, Mycologia **16**: 180. 1924.

On *Drypetes lateriflora* (Sw.) Urban, Porto Rico:—endemic.

13. **Asterina Elaeocarpi** Syd. Abh. Zool.-bot. Ges. Wien **7**[3]: 73.

On *Herpetica alata* (L.) Raf., Porto Rico.

14. **Asterina Fawcetti** Ryan, Mycologia **16**: 180. 1924.

On *Eugenia buxifolia* (Sw.) Willd., Mona Island:—endemic.

15. **Asterina Genipae** Ryan, Mycologia **16**: 180. 1924.

On *Genipa americana* L., Porto Rico:—endemic.

16. **Asterina guianensis** Ryan, Mycologia **16**: 182. 1924.

On *Tamonea guianensis* Aubl., Porto Rico:—endemic.

17. **Asterina Hippocrateae** Ryan, Mycologia **16**: 181. 1924.

On *Hippocratea volubilis* L., Porto Rico:—endemic.

18. **Asterina inaequalis** Mont. Ann. Sci. Nat. IV. **5**: 340. 1856.
Asterina nodulosa Speg. Bol. Acad. Ci. Cordoba **11**: 561. 1889.
On *Hirtella triandra* Sw., Porto Rico:—continental South America.

19. **Asterina Ixorae** Ryan, Mycologia **16**: 182. 1924.

On *Ixora ferrea* (Jacq.) Benth., Porto Rico:—endemic.

20. **Asterina Kernii** Toro, Mycologia **17**: 133. 1925.

On *Brunellia comocladifolia* H. & B., Porto Rico:—endemic.

21. **Asterina Melastomacearum** Ryan, Mycologia **16**: 186. 1924.

On *Miconia racemosa* (Aubl.) DC. (Erroneously reported on *Miconia impetiolaris* (Sw.) D. Don), Porto Rico:—endemic.

22. **Asterina Myrciae** Ryan, Mycologia **16**: 186. 1924.

On *Eugenia* sp., *Myrcia splendens* (Sw.) DC., Porto Rico:—endemic.

23. **Asterina passifloricola** Ryan, Mycologia **16**: 183. 1924.

On *Passiflora* sp., Porto Rico:—endemic.

24. **Asterina portoricensis** Ryan, Mycologia **16**: 185. 1924.

On *Solanum* sp., Porto Rico:—endemic.

25. **Asterina Psidii** Ryan, Mycologia **16**: 185. 1924.

On *Psidium Guajava* L., Porto Rico:—endemic.

26. **Asterina Psychotriae** Ryan, Mycologia **16**: 185. 1924.

On *Psychotria pubescens* Sw., Porto Rico:—endemic.

27. **Asterina punctiformis** Lév. Ann. Sci. Nat. III. **5**: 267. 1846.

On *Gesneria* sp., Porto Rico:—Java.

28. **Asterina Racemosae** Ryan, Mycologia **16**: 182. 1924.

Asterina miconicola Ryan, Mycologia **16**: 182. 1924.

On *Miconia racemosa* (Aubl.) DC., (Erroneously reported on *Miconia Sintenisii* Cogn., and *Miconia impetiolaris* (Sw.) D. Don), Porto Rico:—endemic.

29. **Asterina Schroeteri** (Rehm) Theiss. Ann. Myc. **10**: 167. 1912.

Seynesia Schroeteri Rehm, Hedwigia **37**: 326. 1898.

On *Chrysobalanus Icaco* L., *Chrysobalanus* sp., Porto Rico:—continental South America.

30. **Asterina solanicola** Berk. & Curt. Jour. Linn. Soc. **10**: 374. 1868.

Asterina triloba Earle, Bull. N. Y. Bot. Garden **3**: 310. 1905.

On *Cestrum laurifolium* L'Her., *C. macrophyllum* Vent., *Pavonia spinifex* (L.) Cav. and *Clusia Gundlachii* Stahl, Porto Rico:—Cuba.

31. **Asterina spathulata** (Ryan) nom. nov.

Asterina Miconiae Ryan, Mycologia **16**: 181. 1924. Not *A. Miconiae* Theiss. Ann. Myc. **11**: 440. 1913.

On *Miconia racemosa* (Aubl.) DC., *M. thomasiana* DC., Porto Rico:—endemic.

32. **Asterina Sydowiana** Ryan, Mycologia **16**: 184. 1924.

On *Micropholis* sp., Porto Rico:—endemic.

33. **Asterina Tacsoniae** Pat. Bull. Soc. Myc. Fr. **9**: 147. 1893. var. **Passiflorae** Ryan, Mycologia **16**: 183. 1924.

On *Passiflora suberosa* L., Porto Rico:—variety endemic.

34. **Asterina Tetrazygiae** Ryan, Mycologia **16**: 183. 1924.

On *Tetrazygia elaeagnoides* (Sw.) DC., *Tetrazygia* sp., Porto Rico:—endemic.

35. **Asterina Theissenia** Ryan, Mycologia **16**: 187. 1924.

On *Miconia rubiginosa* (Bonpl.) DC., Porto Rico:—endemic.

36. **Asterina transiens** Theiss. Abh. Zool.-bot. Ges. Wien **7**[3]: 42. 1913.

On *Miconia racemosa* (Aubl.) DC., Porto Rico:—Brazil.

37. **Asterina vagans** Speg. Anal. Soc. Ci. Argent. **26**: 48. 1888.

On *Tournefortia laurifolia* Vent., Porto Rico:—continental South America.

38. **Asterina versipoda** Ryan, Mycologia **16:** 188. 1924.

On unknown host, Porto Rico:—endemic.

Doubtful Species.

Asterina Eugeniae (Mont.) Sacc. Syll. Fung. **1:** 49. 1882.

Dothidea Eugeniae Mont. Ann. Sci. Nat. II. **8:** 359. 1837.

This is apparently the first fungus reported from Porto Rico. No material is available for study and its identity is therefore doubtful.

3. **ASTERINELLA** Theiss. Ann. Myc. **10:** 160. 1912.

1. **Asterinella cylindrotheca** (Speg.) Theiss. Broteria **10:** 114. 1912.

Asterina cylindrotheca Speg. Bol. Acad. Ci. Cordoba **11:** 183. 1889.

On *Eugenia* sp., Porto Rico:—continental South America.

2. **Asterinella Hippeastri** Ryan, Mycologia **16:** 188. 1924.

On *Hippocratea volubilis* L. (Erroneously reported as *Hippeastrum* sp.), Porto Rico:—endemic.

3. **Asterinella Ixorae** Ryan, Mycologia **16:** 189. 1924.

On *Ixora ferrea* (Jacq.) Benth., Porto Rico:—endemic.

4. **Asterinella Melastomacearum** Ryan, Mycologia **16:** 189. 1924.

On Melastomaceae, Porto Rico:—endemic.

5. **Asterinella Phoradendri** Ryan, Mycologia **16:** 189. 1924.

On *Phoradendron racemosum* (Aubl.) Krug & Urban, Porto Rico:—endemic.

4. **AULOGRAPHUM** Lib. Crypt. Ard. *272.* 1834.

1. **Aulographum Cestri** Ryan, Mycologia **16:** 190. 1924.

On *Cestrum* sp., Porto Rico:—endemic.

2. **Aulographum culmigenum** Ellis, Bull. Torrey Club **8:** 65. 1881.

On *Miconia laevigata* (L.) DC., Porto Rico:—continental North America.

3. **Aulographum melioloides** Cooke & Massee, Grevillea **18:** 6. 1889.

On *Mammea americana* L., Porto Rico:—Australia.

5. **CALOTHYRIUM** Theiss. Ann. Myc. **10:** 160. 1912.

This genus may be identical with *Microthyrium.*

1. **Calothyrium Hippocratea** Ryan, Mycologia **16:** 179. 1924.

On *Hippocratea volubilis* L., Porto Rico:—endemic.

2. **Calothyrium Ingae** Ryan, Mycologia **16:** 179. 1924.

On *Inga Inga* (L.) Britton [*Inga vera* Willd.], Porto Rico:—endemic.

3. **Calothyrium Psychotriae** Ryan, Mycologia **16**: 179. 1924.
On *Psychotria* sp., Porto Rico:—endemic.

6. **CAUDELLA** Syd. Ann. Myc. **14**: 90. 1916.

1. **Caudella Psidii** Ryan, Mycologia **16**: 179. 1924.
On *Psidium Guajava* L., Porto Rico:—endemic.

7. **ECHIDNODELLA** Theiss. & Syd. Ann. Myc. **15**: 250. 1917.

1. **Echidnodella Fourcroyae** Ryan, Mycologia **16**: 195. 1924.
On *Furcraea tuberosa* Ait. f., Porto Rico:—endemic.

2. **Echidnodella Melastomacearum** Ryan, Mycologia **16**: 195. 1924.
On *Miconia rubiginosa* (Bonpl.) DC., *Miconia* sp., Porto Rico:—endemic.

3. **Echidnodella Miconiae** Ryan, Mycologia **16**: 195. 1924.
On *Miconia laevigata* (L.) DC., Porto Rico:—endemic.

4. **Echidnodella Myrciae** Ryan, Mycologia **16**: 195. 1924.
On *Myrcia splendens* (Sw.) DC., Porto Rico:—endemic.

5. **Echidnodella Rondeletiae** Ryan, Mycologia **16**: 195. 1924.
On *Rondeletia* sp., Porto Rico:—endemic.

8. **ECHIDNODES** Theiss. & Syd. Ann. Myc. **15**: 422. 1917.

1. **Echidnodes Bromeliacearum** (Rehm) Theiss. & Syd. Ann. Myc. **15**: 422. 1917
Lembosia Bromeliacearum Rehm, Hedwigia **39**: 210. 1900.
Echidnodes Bromeliae Ryan, Mycologia **16**: 194. 1924.
On Bromeliaceae, Porto Rico:—continental South America.

2. **Echidnodes Mammeae** Ryan, Mycologia **16**: 194. 1924.
On *Mammea americana* L., Porto Rico:—endemic.

3. **Echidnodes microspora** (Chardon) comb. nov.
Lembosia microspora Chardon, Mycologia **13**: 282. 1921.
The fungus falls under *Echidnodes* rather than in *Lembosia* since the mycelium has no hyphopodia.
On *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

9. **ENGLERULASTER** Höhn. Sitz.-ber. Akad. Wien. **119**: 62. 1910.

1. **Englerulaster asperulispora** (Gaill.) Theiss. Ann. Myc. **10**: 171. 1912.
Asterina asperulispera Gaill. Bull. Soc. Myc. Fr. **13**: 180. 1897.
On *Ilex nitida* (Vahl) Maxim, Porto Rico:—continental South America.

10. **LEMBOSIA** Lév. Ann. Sci. Nat, III. **3**: 58. 1845.

1. **Lembosia Coccolobae** Earle, Bull. N. Y. Bot. Gard. **3**: 301. 1905. On *Coccolobis uvifera* (L.) Jacq., Porto Rico:—endemic.

2. **Lembosia Dendrochili** Lév. Ann. Sci. Nat. III. **3:** 59. 1845.
Lembosia Agaves Earle, Muhlenbergia **1:** 15. 1901.
Reported on leaves of *Agave sisalana* Perrine, Porto Rico:—Java.

3. **Lembosia Melastomatum** Mont. Ann. Sci. Nat. IV. **5:** 373. 1856.
Lembosia diffusa Winter, Hedwigia **24:** 30. 1885.
On species of *Miconia*, Porto Rico:—continental South America.

4. **Lembosia Philodendri** P. Henn. Hedwigia **43:** 89. 1904.
On *Coccolobis uvifera* (L.) Jacq., Porto Rico:—continental South America.

5. **Lembosia portoricensis** Ryan, Mycologia **16:** 190. 1924.
On *Coccolobis laurifolia* Jacq., Porto Rico:—endemic.

6. **Lembosia Rapaneae** Ryan, Mycologia **16:** 190. 1924.
On *Rapanea* sp., Porto Rico:—endemic.

7. **Lembosia Rolliniae** Rehm, Ann. Myc. **11:** 442. 1913.
On *Tamonea guianensis* Aubl., Porto Rico:—continental South America.

8. **Lembosia Sclerolobii** P. Henn. Hedwigia **43:** 265. 1904.
On *Miconia* sp., Porto Rico:—continental South America.

9. **Lembosia Sepotae** Ryan, Mycologia **16:** 191. 1924.
On *Calophyllum antillanum* Britton, Porto Rico:—endemic.

10. **Lembosia tenella** Lév. Ann. Sci. Nat. III. **3:** 58. 1845.
On *Coccolobis uvifera* (L.) Jacq., Porto Rico:—Tahiti; Ceylon.

11. **LEMBOSIDIUM** Speg. Bol. Acad. Ci. Cordoba **26:** 342. 1923.

1. **Lembosidium portoricense** Speg. Bol. Acad. Ci. Cordoba **26:** 342. 1923.
Described from living leaves of *Coccolobis pirifolia* Desf., Porto Rico:—endemic.

12. **MICROTHYRIUM** Desm. Ann. Sci. Nat. II. **15:** 137. 1841.

1. **Microthyrium Calophylli** Ryan, Mycologia **16:** 179. 1924.
On *Calophyllum* sp., Porto Rico:—endemic.

2. **Microthyrium Laguncularіae** Winter; Rab.-Wint.-Paz. Fungi Eu. *3653;* Hedwigia **29:** 159. 1890.
On *Laguncularia racemosa* (L.) Gaertn., Porto Rico:—continental South America.

3. **Microthyrium Urbani** Bres. in Engler, Bot. Jahrb. **17:** 500. 1893.
On *Schaefferia frutescens* Jacq., Porto Rico:—endemic.

13. **MORENOELLA** Speg. Anal. Soc. Ci. Argent. **19:** 258. 1885.

1. **Morenoella Calami** Rac. Parasit. Algen und Pilze Java's **3:** 28. 1900.
On *Crescentia Cujete* L., Orchidaceae, Porto Rico:—Java.

2. **Morenoella Cestri** Ryan, Mycologia **16:** 192. 1924.
On unknown host, Porto Rico:—endemic.

3. **Morenoella decalvans** (Pat.) Theiss.; Ryan, Mycologia **16:** 192. 1916.
Lembosia decalvans Pat. Ann. Jard. Bot. Buitenzorg 1897: 122.
On unknown host, Porto Rico:—Java.

4. **Morenoella decalvans** var. **Laugeriae** Ryan, Mycologia **16:** 193. 1924.
On *Laugeria resinosa* Vahl, Porto Rico:—variety endemic.

5. **Morenoella decalvans** var. **Rondeletiae** Ryan, Mycologia **16:** 192. 1924.
On *Rondeletia* sp., Porto Rico:—variety endemic.

6. **Morenoella decalvans** var. **Stigmatophylli** Ryan, Mycologia **16:** 193. 1924.
On *Stigmaphyllon* [*Stigmatophyllum*] sp., Porto Rico:—variety endemic.

7. **Morenoella dothideoides** (Ellis & Ev.) Höhn. Sitz.-ber. Akad. Wien. **118:**—7. 1909.
Asteridium dothideoides Ellis & Ev. Bull. Torrey Club **22:** 436. 1895.
On *Miconia racemosa* (Aubl.) DC., Porto Rico:—continental North America.

8. **Morenoella dothideoides** var. **impetiolaris** Ryan, Mycologia **16:** 192. 1924.
On *Miconia prasina* (Sw.) DC., Porto Rico:—variety endemic.

9. **Morenoella gigantea** Ryan, Mycologia **16:** 194. 1924.
On *Miconia prasina* (Sw.) DC., Porto Rico:—variety endemic.

10. **Morenoella Laugeriae** Ryan, Mycologia **16:** 192. 1924.
On *Laugeria resinosa* Vahl, Porto Rico:—endemic.

11. **Morenoella Melastomacearum** Ryan, Mycologia **16:** 194. 1924.
On Melastomaceae, Porto Rico:—endemic.

12. **Morenoella Miconiae** Ryan, Mycologia **16:** 191. 1924.
On *Miconia prasina* (Sw.) DC., *Tamonea macrophylla* (D. Don) Krasser, Porto Rico:—endemic.

13. **Morenoella miconicola** Ryan, Mycologia **16:** 191. 1924.
On *Miconia prasina* (Sw.) DC., Porto Rico:—endemic.

14. **Morenoella Pothodei** var. **laevigatae** Ryan, Mycologia **16:** 193. 1924.
On *Miconia laevigata* (L.) DC., Porto Rico:—variety endemic.

15. **Morenoella portoricensis** Speg. Bol. Acad. Ci. Cordoba **26:** 343. 1923.
On *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

16. **Morenoella Psychotriae** Ryan; Mycologia **16:** 194. 1924.
On unknown host, Porto Rico:—endemic.

17. **Morenoella Whetzelii** Toro, Mycologia **17:** 134. 1925.

On *Elsota* sp., [reported as *Securidaea volubilis* L.], Porto Rico:—endemic.

14. **SEYNESIA** Sacc. Syll. Fung. **2:** 668. 1883.

1. **Seynesia Coccolobae** Ryan, Mycologia **16:** 178. 1924.

On *Coccolobis laurifolia* Jacq., Porto Rico:—endemic.

2. **Seynesia Cordiae** Ryan, Mycologia **16:** 178. 1924.

On *Cordia sulcata* DC., Porto Rico:—endemic.

Family 2. **TRICHOPELTACEAE.**

1. **TRICHOPELTIS** Speg. Bol. Acad. Ci. Cordoba **11:** 571. 1889.

1. **Trichopeltis reptans** (Berk. & Curt.) Speg. Bol. Acad. Ci. Cordoba **11:** 574. 1889.

Asterina reptans Berk. & Curt. Jour. Linn. Soc. **10:** 373. 1868.

On living leaves of *Philodendron Krebsii* Schott, Porto Rico:—continental South America.

Family 3. **HEMISPHAERIACEAE.**

1. **ASTERIDIELLINA** nom. nov.

Asteridium Speg. Bol. Acad. Ci. Cordoba **26:** 348. 1923. Not *Asteridium* Sacc. 1891.

1. **Asteridiellina portoricensis** (Speg.) comb. nov.

Asteridium portoricense Speg. loc. cit.

The genus *Asteridium* Speg. is untenable because the name was preoccupied by *Asteridium* Sacc. which according to v. Höhnel is a synonym of *Meliola* Fries.

On living leaves of *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

2. **CLYPEOLUM** Speg. Anal. Soc. Ci. Argent. **12:**—[54]. 1881.

1. **Clypeolum scutelliforme** Rehm, Hedwigia **37:** 322. 1898.

On undertermined host, Porto Rico:—continental South America.

3. **MICROPELTIDIUM** Speg. Bol. Acad. Ci. Cordoba **26:** 350. 1823.

1. **Micropeltidium monense** Speg. Bol. Acad. Ci. Cordoba **26:** 351. 1923.

On living leaves of *Amyris elemifera* L., Mona Island:—endemic.

2. **Micropeltidium portoricense** Speg. Bol. Acad. Ci. Cordoba **26:** 351. 1923.

On living leaves of *Comocladia glabra* (Schultes) Spreng., Porto Rico:—endemic.

4. **MICROPELTIS** Mont. Pl. Cell. Cuba 325. 1838.

1. **Micropeltis aeruginascens** Rehm, Ascomycetes *2074*. 1913. (hyponym)

On *Rourea surinamensis* Miq., Porto Rico:—Philippine Islands.

2. **Micropeltis albo-marginata** Speg. Bol. Acad. Ci. Cordoba **11:** 572. 1889.

On undetermined host, Porto Rico:—endemic.

3. **Micropeltis Marattiae** P. Henn. Hedwigia **34**: 13. 1895.
On *Adiantum latifolium* Lam., Porto Rico:—Natal.

5. **SCOLECOPELTELLA** Speg. Bol. Acad. Ci. Cordoba **26**: 354. 1923.

1. **Scolecopeltella microcarpa** Speg. Bol. Acad. Ci. Cordoba **26**: 354. 1923.
On living leaves of *Philodendron Krebsii* Schott, Porto Rico:—endemic.

2. **Scolecopeltella portoricensis** Speg. Bol. Acad. Ci. Cordoba **26**: 354. 1923.
On living leaves of *Dipholis salicifolia* (L.) A.DC., Porto Rico:—endemic.

6. **SCOLECOPELTIS** Speg. Bol. Acad. Ci. Cordoba **11**: 574. 1889.

1. **Scolecopeltis Cestri** Toro, Mycologia **17**: 137. 1925.
On *Cestrum* sp. associated with *Aulographum Cestri*, Porto Rico:—endemic.

2. **Scolecopeltis Chardonii** Toro, Mycologia **17**: 138. 1925.
On *Maytenus elongata* (Urban) Britton, Porto Rico:—endemic.

3. **Scolecopeltis Ingae** Toro, Mycologia **17**: 138. 1925.
On *Inga Inga* (L.) Britton, *Inga laurina* (Sw.) Willd., Porto Rico:—endemic.

4. **Scolecopeltis Ionopsidis** Toro, Mycologia **17**: 137. 1925.
On *Ionopsis utricularioides* (Sw.) Lindl., Porto Rico:—endemic.

5. **Scolecopeltis longispora** (Earle) Toro, Mycologia **17**: 136. 1925.
Micropeltis longispora Earle, Bull. N. Y. Bot. Garden **3**: 311. 1905.
On *Coffea arabica* L., Porto Rico:—endemic.

6. **Scolecopeltis micropeltiformis** Toro, Mycologia **17**: 137. 1925.
On *Casearia sylvestris* Sw., Porto Rico:—endemic.

7. **Scolecopeltis pachyasca** Speg. Bol. Acad. Ci. Cordoba **26**: 353. 1923.
On living leaves of *Coccolobis laurifolia* Jacq., Porto Rico:—endemic.

8. **Scolecopeltis portoricensis** Speg. Bol. Acad. Ci. Cordoba **26**: 352. 1923.
On living leaves of *Canella Winterana* (L.) Gaertn., Porto Rico:—endemic.

Order 5. PERISPORIALES.

The order includes the powdery mildews, few of which occur in the tropics, and the sooty molds which are very abundant in tropical lands, occurring mostly as epiphytes following insects and often destroying them.

Vegetative mycelium white.	Fam. 1. ERYSIPHACEAE.
Vegetative mycelium dark or occasionally wanting.	
Mycelial hyphae not slimy, septate, branched net-like; peridium parenchymatous, not slimy.	Fam. 2. PERISPORIACEAE.
Mycelium when septate, bound together into skein-like masses; perithecia composed of slimy rounded cells or of septate, slimy meridional hyphae.	Fam. 3. CAPNODIACEAE.

Family 1. **ERYSIPHACEAE.**

1. **ERYSIPHE** DC. Fl. Fr. **2**: 272. 1805.

1. Erysiphe Cichoracearum DC. Fl. Fr. **2**: 274. 1805.

On *Cosmos caudatus* H. B. K., *Eupatorium microstemon* Cass., *Solanum torvum* Sw., Porto Rico:—continental North America; Europe; Asia; Africa.

2. Erysiphe communis (Wallr.) Fries, Summa Veg. Scand. 406. 1849.

Alphitomorpha communis Wallr. Fl. Crypt. Ger. **2**: 758. 1833.

On *Sida* sp., St. Croix; St. Jan:—widely distributed.

3. Erysiphe Galeopsidis DC. Fl. Fr. **6**: 108. 1815.

On *Eupatorium microstemon* Cass., Porto Rico:—continental North America; Europe; Asia.

4. Erysiphe Malachrae Seaver, sp. nov.

Mycelium scant but covering the greater part of the upper side of the leaf, giving it a whitish appearance, the tissue of the leaf being slightly discolored; perithecia numerous, at first white, becoming pale brown, subglobose, reaching a diameter of 60–75 μ, almost devoid of appendages, usually containing three asci; asci ellipsoid, about 30 $\times$ 40 μ, apparently 5-spored; spores ellipsoid, about 14 $\times$ 20 μ, hyaline.

On living leaves of *Malachra capitata* L., Porto Rico:—endemic.

This species is unique in many ways so that its position in the genus is open to question although it is undoubtedly one of the Erysiphaceae. The perithecia are unusually small, almost devoid of appendages and at most only pale brown instead of black. So far as we are aware this is the only member of the family reported from Porto Rico with the ascigerous stage developed at all. Later collections may give us more detailed information on the species and its relationship.

5. Erysiphe Polygoni DC. Fl. Fr. **2**: 273. 1805.

On *Arracacia xanthorrhiza* Bancr., *Ditremexa occidentalis* (L.) Britton & Rose [*Cassia occidentalis* L.], *Emelista tora* (L.) Britton & Rose [*Cassia tora* L.], *Dahlia* sp., *Phaseolus adenanthus* G. F. W. Mey., *P. lathyroides* L., *P. vulgaris* L.; also reported by Stevenson on *Chamaecrista aeschinomene* (DC.) Greene, *C. diphylla* (L.) Greene, *Pisum sativum* L., *Vigna repens* (L.) Kuntze., *V. unguiculata* (L.) Walp., Porto Rico; *Phaseolus* sp., Mona Island:—continental North America; Europe; Asia; Africa; Australia.

2. **MICROSPHAERA** Lév. Ann. Sci. Nat. III. **15**: 381. 1851.

1. Microsphaera diffusa Cooke & Peck, Jour. Bot. **10**: 13. 1872.

On *Crotalaria retusa* L., *Manihot Manihot* (L.) Cockerell, *Meibomia scorpiurus* (Sw.) Kuntze, *M. supina* (Sw.) Kuntze; also reported by Stevenson on *Meibomia adscendens* (Sw.) Kuntze, *M. purpurea* (Mill.) Vail [*M. tortuosa* (Sw.) Kuntze], Porto Rico; *Meibomia* sp., Mona Island:—continental North America.

The specific determination of the fungus is somewhat doubtful since in most cases the conidial stage only has been found.

2. Microsphaera Euphorbiae Peck, Ann. Rep. N. Y. State Mus. **26**: 80. 1874.

On *Chamaesyce hyssopifolia* (L.) Small, *C. hypericifolia* (L.) Millsp.; also reported by Stevenson on *Hibiscus sabdariffa* L., *Manihot Manihot* (L.) Cockerell, Porto Rico; *Chamaesyce hypericifolia* (L.) Millsp., Mona Island:—continental North America.

This like the preceding species is known from Porto Rico only in its conidial stage.

3. **SPHAEROTHECA** Lév. Ann. Sci. Nat. III. **15**: 188. 1851.

1. **Sphaerotheca Humuli** DC.) Burr. Bull. Ill. State Lab. Nat. Hist. **2**: 400. 1887.

Erysiphe Humuli DC. Fl. Fr. **6**: 106. 1815.

On *Bidens pilosa* L. [*Bidens leucantha* (L.) Willd.], *B. reptans* L.) G. Don, *Cosmos* sp., *Melampodium cinereum* Kuntze) O. E. Schultz, *Rosa* sp. cult., *Verbena* sp. (cult.); also reported by Stevenson on *Calyptronoma occidentalis* Willd., Porto Rico:—continental North America; Europe; Asia.

Most Porto Rican specimens show conidia only.

Family 2. PERISPORIACEAE.

Fred J. Seaver and Rafael A. Toro.

1. **APPENDICULELLA** Höhn. Sitz.-ber. Akad. Wien **128**: 556. 1919.

1. **Appendiculella arecibensis** Stevens Toro, Mycologia **17**: 144. 1925.

Meliola arecibensis Stevens, Ill. Biol. Monog. **2**[4]: 23. 1916.

On *Acalypha bisetosa* Bert., Porto Rico:—endemic.

2. **Appendiculella calostroma** (Desm.) Höhn. Sitz-ber. Akad. Wien **128**: 556. 1919.

Sphaeria calostroma Desm. Bull. Soc. Bot. Fr. **4**: 1011. 1857.
Chaetosphaeria calostroma Sacc. Syll. Fung. **2**: 95. 1883.
Meliola manca Ellis & Mart. Am. Nat. **17**: 1284. 1883.
Meliola sanguinea Ellis & Ev. Jour. Myc. **2**: 42. 1886.
Meliola Puiggarii Speg. Bol. Acad. Ci. Cordoba **11**: 492. 1889.
Meliola rubicola P. Henn. Hedwigia **43**: 140. 1904.
Meliola calostroma Höhn. Ann. Myc. **15**: 363. 1917.
Irene manca Theiss. & Syd. Ann. Myc. **15**: 461. 1917.
Irene Puiggarii Doidge, Trans. Roy. Soc. South Africa **9**: 122. 1919.

On *Myrica cerifera* L., *Rubus* sp., Porto Rico:—continental North and South America; Europe; Asia.

3. **Appendiculella Calophylli** (Stevens) Toro, Mycologia **17**: 144. 1925.

Meliola Calophylli Stevens, Ill. Biol. Monog. **2**[4]: 22. 1916.

On *Calophyllum antillanum* Britton [*Calophyllum Calaba* Jacq. not L.], Porto Rico:—endemic.

4. **Appendiculella compositarum** (Earle) Toro, Mycologia **17**: 144. 1925.

Meliola compositarum Earle, Bull. New York Bot. Garden **3**: 306. 1905.

On *Mikania cordifolia* (L. f.) Willd., *Osmia odorata* L. Sch. Bip. [*Eupatorium odoratum* L.], Porto Rico:—endemic.

5. **Appendiculella compositarum portoricensis** (Stevens) comb. nov.

Meliola compositarum var. *portoricensis* Stevens, Ill. Biol. Monog. **2**[4]: 22. 1916.

On *Eupatorium dolicholepis* (Urban Britton, *Critonia portoricensis* (Urban) Britton & Wilson, Porto Rico:—endemic.

6. **Appendiculella tuberculata** (Stevens) Toro, Mycologia **17**: 144. 1925.

Meliola tuberculata Stevens, Ill. Biol. Monog. **2**[4]: 22. 1916.

On unknown host, Porto Rico:—endemic.

2. **DIMERIELLA** Speg. Rev. Mus. La Plata **15**: 12. 1908.

1. **Dimeriella Cordiae** (P. Henn.) Theiss. Beih. Bot. Centr. **29**[2]: 67. 1912.

Dimerosporium Cordiae P. Henn. Hedwigia **48**: 4. 1908.

On *Cordia sulcata* DC., Porto Rico:—continental South America.

2. **Dimeriella fumagina** (Dearn. & Barth.) Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 136. 1918.

Asterina fumagina Dearn. & Barth. Mycologia **9**: 349. 1917.
Dimeriella Olyrae Stêvens, Trans. Ill. Acad. Sci. **10**: 167. 1917.

On *Olyra latifolia* L., also reported by Stevenson on *Lasiacis Sloanei* (Griseb.) Hitchc., Porto Rico:—endemic.

3. **DIMERINA** Theiss. Ann. Myc. **10**: 5. 1912.

1. **Dimerina eutricha** (Sacc. & Berl.) Theiss. Beih. Bot. Centr. **29**[2]: 65. 1912.

Dimerosporium eutrichum Sacc. & Berl. Rev. Myc. **7**: 156. 1885.

On *Meliola Psychotriae* and *Meliola hyptidicola*, Porto Rico:—continental South America.

2. **Dimerina Jacquiniae** Garman, Mycologia **7**: 337. 1915.

Dimerina monensis Stevens, Bot. Gaz. **69**: 254. 1920.

On *Jacquinia Barbasco* (Loefl.) Mez., Mona Island:—endemic.

The two above named species were based on the same collection number apparently by mistake.

4. **DIMERIOPSIS** Stevens, Trans. Ill. Acad. Sci. **10**: 171. 1917.

1. **Dimeriopsis arthrostylidicola** Stevens, Trans. Ill. Acad. Sci. **10**: 171. 1917.

On *Arthrostylidium sarmentosum* Pilger, Porto Rico:—endemic.

5. **DIMERIUM** Authors not Sacc. & Syd. in Sacc. Syll. Fung. **17**: 537. 1905.

1. **Dimerium piceum** (Berk. & Curt.) Theiss. Ann. Myc. **10**: 3. 1912.

Asterina picea Berk. & Curt. Jour. Linn. Soc. **10**: 374. 1868.

On different species of *Meliola* on a variety of hosts, Porto Rico:—Cuba; continental South America.

According to Theissen and Sydow, *Dimerosporium tropicale* Speg. is a synonym of the above.

2. **Dimerium Stevensii** Garman, Mycologia **7**: 337. 1915.

On *Varronia corymbosa* (L.) Desv., Porto Rico:—endemic.

6. *__HALSTEDIA__ Stevens, Bot. Gaz. **69**: 253. 1920.

1. **Halstedia portoricensis** Stevens, Bot. Gaz. **69**: 253. 1920.

On *Sideroxylon foetidissimum* Jacq., Porto Rico:—endemic.

7. **HYALODERMA** Speg. Anal. Soc. Ci. Argent. **17**: 131. 1883.

1. **Hyaloderma piliderum** Pat. Bull. Soc. Myc. Fr. **4**: 102. 1888.

On the mycelium of a *Meliola* on some grass, Porto Rico:—continental South America.

8. **IRENE** Theiss. & Syd. Ann. Myc. **15**: 194. 1917.

1. **Irene aibonitensis** (Stevens) Toro, Mycologia **17**: 140. 1925.

Meliola aibonitensis Stevens, Ill. Biol. Monog. **2**[4]: 16. 1916.

On *Daphnopsis caribaea* Griseb., Porto Rico:—endemic.

* The position of this genus is uncertain and according to Stevens, it represents a transition between the Perisporiaceae on the one hand and the Dothideaceae.

2. **Irene cyclopoda** (Stevens) Toro, Mycologia **17**: 140. 1925.
Meliola cyclopoda Stevens, Ill. Biol. Monog. **2**[4]: 16. 1925.
On *Pseudelephantopus spicatus* (Juss.) Rohr., Porto Rico:—endemic.

3. **Irene glabra** (Berk. & Curt.) Toro, Mycologia **17**: 139. 1925.
Meliola glabra Berk. & Curt. Jour. Linn. Soc. **10**: 392. 1868.
On *Piper aduncum* L., Porto Rico:—Cuba.

4. **Irene glabroides** (Stevens) Toro, Mycologia **17**: 142. 1925.
Meliola glabroides Stevens, Ill. Biol. Monog. **2**[4]: 18. 1916.
Meliola glabroides var. *Schlegeliae* Stevens, l.c.
On *Nectandra patens* (Sw.) Griseb., *Schlegelia* sp., *Piper aduncum* L., *P. marginatum* L., *Sauvagesia erecta* L., *Solanum persicifolium* Dun., *S. rugosum* Dun.; *Valerianoides cayennense* (L. C. Rich.)Kuntze, Porto Rico:—endemic.

5. **Irene hyptidicola** (Stevens) Toro, Mycologia **17**: 139. 1925.
Meliola hyptidicola Stevens, Ill. Biol. Monog. **2**[4]: 16. 1916.
On *Hyptis capitata* Jacq., *Hyptis lantanifolia* Poit., Porto Rico:—endemic.

6. **Irene irregularis** (Stevens) Toro, Mycologia **17**: 139. 1925.
Meliola irregularis Stevens, Ill. Biol. Monog. **2**[4]: 15. 1916.
On *Hygrophila brasiliensis* (Spreng.) Lindau., Porto Rico:—endemic.

7. **Irene Laguncullariae** (Earle) Toro, Mycologia **17**: 141. 1925.
Meliola Laguncullariae Earle, Muhlenbergia **1**: 11. 1901.
On *Laguncularia racemosa* (L.) Gaertn., Porto Rico:—endemic.

8. **Irene longipoda** (Gaill.) Toro, Mycologia **17**: 141. 1925.
Meliola longipoda Gaill. Bull. Soc. Myc. Fr. **8**: 178. 1892.
On *Cordia nitida* Vahl, *Varronia corymbosa* (L.) Desv., Porto Rico:—continental South America.

9. **Irene Melastomacearum** (Speg.) Toro, Mycologia **17**: 141. 1925.
Meliola Melastomacearum Speg. Biol. Acad. Ci. Cordoba **11**: 494. 1889.
On *Clidemia hirta* (L.) D. Don, *C. strigillosa* (Sw.) DC., *Miconia laevigata* (L.) DC., *Miconia prasina* (Sw.) DC., *M. impetiolaris* (Sw.) D. Don, *M. racemosa* (Aubl.) DC., Porto Rico:—continental South America.

10. **Irene Perseae** (Stevens) Toro, Mycologia **17**: 140. 1925.
Meliola Perseae Stevens, Ill. Biol. Monog. **2**[4]: 17. 1916.
On *Persea Persea* (L.) Cockerell, Porto Rico:—endemic.

11. **Irene portoricensis** Toro, Mycologia **17**: 141. 1925.
On *Acnistus arborescens* (L.) Schlecht., Porto Rico:—endemic.

12. **Irene seminata** (Berk. & Curt.) comb. nov.
Meliola seminata Berk. & Curt. Jour. Linn. Soc. **10**: 392. 1868.
Meliola glabra var. *Psychotriae* Stevens, Ill. Biol. Monog. **2**[4]: 14. 1916.
On *Tontanea herbacea* (Lam.) Standley [*Coccosipsilum repens* Sw.], *Psychotria Berteriana* DC., *Psychotria pubescens* Sw., Porto Rico:—Cuba.

13. **Irene sepulta** (Pat.) Toro, Mycologia **17**: 139. 1925.
Meliola sepulta Pat.; Stevens, Ill. Biol. Monog. **2**[4]: 14. 1916.
On *Avicennia nitida* Jacq., Porto Rico:—endemic.

14. **Irene triloba** (Wint.) Theiss. & Syd. Ann. Myc. **15**: 461. 1917.
Meliola triloba Winter, Hedwigia **25**: 95. 1886.
On *Pilea Parietaria* (L.) Bl., Porto Rico:—West Africa.

9. **MELIOLA** Fries, Syst. Orbis Veg. 111. 1825.
Asteridium (Speg.) Sacc. Syll. Fung. **9**: 435. 1891.

1. **Meliola ambigua** Pat. & Gaill. Bull. Soc. Myc. Fr. **4**: 104. 1888.
On *Lantana Camara* L., *L. involucrata* L., Porto Rico:—continental South America.

2. **Meliola amomicola** Stevens, Ill. Biol. Monog. **2**[4]: 40. 1916.
On *Amomis caryophyllata* (Jacq.) Krug & Urban, Porto Rico:—endemic.

3. **Meliola amphitricha** Fries, Elench. Fung. **2**: 109. 1828.
Reported on *Dendropanax arboreum* (L.) Dcne. & Pl. [*Aralia arborea* L.], reported by Lév. Ann. Sci. Nat. III. **3**: 64. Porto Rico:—Cuba; continental America; Australia; Philippine Islands.

4. **Meliola Andirae** Earle, Bull. N. Y. Bot. Garden **3**: 303. 1905
On *Andira inermis* H.B.K, Porto Rico:—endemic.

5. **Meliola bayamonensis** Tehon, Bot. Gaz. **67**: 506. 1919.
On *Psychotria pubescens* Sw., Porto Rico:—endemic.

6. **Meliola bicornis** Winter, Hedwigia **25**: 99. 1886.
On *Meibomia axillaris* (Sw.) Kuntze, *M. adscendens* (Sw.) Kuntze, *M. supina* (Sw.) Britton, *Securidaca volubilis* L., *Dolicholus reticulatus* (Sw.) Millsp., *Bradburya virginiana* (L.) Kuntze, *Mimosa Ceratonia* L., *Lonchocarpus glaucifolius* Urban, *Erythrina Pòeppigiana* (Walp.) O. F. Cook [*Erythrina micropteryx* Poepp.], *Teramnus uncinatus* (L.) Sw., Porto Rico:—continental South America.

7. **Meliola bicornis** var. **Calopogonii** Stevens, Ill. Biol. Monog. **2**[4]: 64. 1916.
On *Calopogonium orthocarpum* Urban, Porto Rico:—variety endemic.

8. **Meliola bicornis** var. **Galactiae** Stevens, Ill. Biol. Monog. **2**[4]: 64. 1916.
On *Galactia dubia* DC., Porto Rico:—variety endemic.

9. **Meliola bidentata** Cooke, Grevillea **11**: 37. 1882.
On *Tabebuia pallida* Miers. [*Tecoma pentaphylla* Juss.], *Tabebuia haemantha* (Bert.) DC., Porto Rico:—continental North America.

10. **Meliola Byrsonimae** Stevens, Ill. Biol. Monog. **2**[4]: 49. 1916.
On *Byrsonima cuneata* (Tucz.) P. Wilson [*Byrsonima lucida* (Sw.) DC.], Porto Rico:—endemic.

11. **Meliola capsicola** Stevens, Ill. Biol. Monog. **2**[4]: 41. 1916.

On *Capsicum frutescens* L., Porto Rico:—endemic.

12. **Meliola Cestri** Tehon, Bot. Gaz. **67**: 505. 1919.

On *Cestrum* sp., Porto Rico:—endemic.

13. **Meliola Chamaecristae** Earle, Bull. N. Y. Bot. Garden **3**: 304. 1905.

On *Chamaecrista* sp., Porto Rico:—endemic.

14. **Meliola chamaecristicola** Stevens, Ill. Biol. Monog. **2**[4]: 26. 1916.

On *Chamaecrista granulata* (Urban) Britton, Mona Island:—endemic.

15. **Meliola Chiococcae** Stevens, Ill. Biol. Monog. **2**[4]: 27. 1916.

On *Chiococca alba* (L.) Hitchc., Porto Rico:—endemic.

16. **Meliola circinans** Earle, Bull. N. Y. Bot. Garden **3**: 304. 1905.

On *Mariscus jamaicensis* (Crantz) Britton, *Rynchospora corymbosa* (L.) Britton, *R. gigantea* Link, Porto Rico:—endemic.

17. **Meliola clavulata** Winter, Hedwigia **25**: 98. 1886.

On *Ipomoea Batatas* (L.) Lam., *I. cathartica* Poir., *I. tiliacea* (Willd.) Choisy, Porto Rico:—Africa.

18. **Meliola Clusiae** Stevens, Ill. Biol. Monog. **2**[4]: 52. 1916.

On *Clusia Gundlachii* Stahl, Porto Rico:—endemic.

19. **Meliola Comocladiae** Stevens, Ill. Biol. Monog. **2**[4]: 25. 1916.

On *Comocladia glabra* (Schultes) Spreng., *Spondias Mombin* L., Porto Rico:—endemic.

20. **Meliola compacta** Earle, Bull. N. Y. Bot. Garden **3**: 306. 1905.

On *Rhacoma Crossopetalum* L. [*Crossopetalum pallens* (Sm.) Kuntze], Porto Rico:—endemic.

21. **Meliola conferta** Tehon, Bot. Gaz. **67**: 502. 1919.

On *Rhacoma Crossopetalum* L., Mona Island:—endemic.

22. **Meliola contorta** Stevens, Ill. Biol. Monog. **2**[4]: 32. 1916.

On *Piper hispidum* Sw., Porto Rico:—endemic.

23. **Meliola Cucurbitacearum** Stevens, Ill. Biol. Monog. **2**[4]: 58. 1916.

On undetermined cucurbit, Porto Rico:—endemic.

24. **Meliola Cupaniae** Stevens, Ill. Biol. Monog. **2**[4]: 29. 1916.

On *Cupania americana* L., Porto Rico:—endemic.

25. **Meliola Cyperi** Pat.; Gaill. Le Genre Meliola 70. 1892.

On *Cyperus* sp., *Scleria* sp., *Mariscus jamaicensis* (Crantz) Britton, Porto Rico:—Africa.

According to Spegazzini specimens referred to this species belong to *Meliola argentina*.

26. **Meliola denticulata** Winter; Gaill. Le Genre Meliola 98. 1892.

On *Roystonea borinquena* Cook, Porto Rico:—continental South America.

27. **Meliola Didymopanicis** P. Henn. Hedwigia **34**: 106. 1895.

On *Dendropanax arboreum* (L.) Dcne. & Pl.; *D. laurifolium* (E. March.) Dcne. & Pl. [*Gilibertia laurifolia* E. March.], Porto Rico:—continental South America.

28. **Meliola Dieffenbachiae** Stevens, Ill. Biol. Monog. **2**[4]: 62. 1916.

On *Dieffenbachia seguine* (Jacq.) Schott, Porto Rico:—endemic.

29. **Meliola Dipholidis** Stevens, Ill. Biol. Monog. **2**[4]: 44. 1916.

On *Dipholis salicifolia* (L.) A. DC., Porto Rico:—endemic.

30. **Meliola Earlii** Stevens, Ill. Biol. Monog. **2**[4]: 47. 1916.

On *Pilea nummulariaefolia* (Sw.) Wedd., *P. Parietaria* (L.) Bl., Porto Rico:—endemic.

31. **Meliola furcata** Lév. Ann. Sci. Nat. Ill. **5**: 266. 1846.

On *Euterpe globosa* Gaertn. [*Acrista monticola* Cook], *Coccothrinax argentea* (Lodd.) Sargent, *Coccothrinax alta* (Cook) Becc., *Distictis lactiflora* (Vahl) Bur., *Thrinax microcarpa* Sarg. [*Thrinax Ponceana* Cook], Porto Rico:—continental South America.

32. **Meliola Gaillardiana** Stevens, Ill. Biol. Monog. **2**[4]: 61. 1916.

On *Piper aduncum* L., Porto Rico:—endemic.

33. **Meliola Gesneriae** Stevens, Ill. Biol. Monog. **2**[4]: 47. 1916.

On *Cestrum laurifolium* L'Her., *C. macrophyllum* Vent., *Pentarhaphia albiflora* Dcne., Porto Rico:—endemic.

34. **Meliola Guareae** Speg. Anal. Mus. Buenos Aires **23**: 42. 1912.

On *Guarea Guara* (Jacq.) P. Wilson [*Guarea trichilioides* L.], Porto Rico:—continental South America.

35. **Meliola guareicola** Stevens, Ill. Biol. Monog. **2**[4]: 53. 1916.

On *Guarea Guara* (Jacq.) P. Wilson [*Guarea trichilioides* L.], Porto Rico:—endemic.

36. **Meliola Guignardi** Gaill. Bull. Soc. Myc. Fr. **8**: 176. 1892.

On *Turpinia paniculata* Vent., Porto Rico:—continental South America.

37. **Meliola gymnanthicola** Stevens, Ill. Biol. Monog. **2**[4]: 49. 1916.

On *Gymnanthes lucida* Sw., Porto Rico:—endemic.

38. **Meliola Helleri** Earle, Bull. N. Y. Bot. Garden **3**: 307. 1905.

On *Eugenia monticola* (Sw.) DC., *E. Stahlii* (Kiaersk.) Krug & Urban, *Myrcia deflexa* (Poir.) DC., *M. splendens* (Sw.) DC.; also on unidentified woody plant, Porto Rico:—endemic.

39. **Meliola Hessii** Stevens, Ill. Biol. Monog. **2**[4]: 59. 1916.

On *Paullinia pinnata* L., Porto Rico:—endemic.

40. **Meliola Ipomoeae** Earle, Muhlenbergia **1**: 10. 1901.

On *Ipomoea cathartica* Poir., *I. Batatas* (L.) Lam., *I. tiliacea* (W.) Choisy, Porto Rico:—endemic.

41. **Meliola Jatrophae** Stevens, Ill. Biol. Monog. **2**[4]: 48. 1916.

On *Curcas hernandifolius* (Vent.) Britton [*Jatropha hernandifolia* Vent.], Porto Rico:—endemic.

42. **Meliola Lucumae** Stevens, Ill. Biol. Monog. **2**[4]: 49. 1916.

On *Lucuma multiflora* A. DC., Porto Rico:—endemic.

43. **Meliola Magnoliae** Stevens, Ill. Biol. Monog. **2**[4]: 55. 1916.

On *Magnolia portoricensis* Bello, Porto Rico:—endemic.

44. **Meliola Mangiferae** Earle, Bull. N. Y. Bot. Garden **3**: 307. 1905.

On *Mangifera indica* L., Porto Rico:—endemic.

45. **Meliola Marcgraviae** Tehon, Bot. Gaz. **67**: 506. 1919.

On *Marcgravia rectiflora* Tr. & Pl., Porto Rico:—endemic.

46. **Meliola maricaensis** Stevens, Ill. Biol. Monog. **2**[4]: 31. 1916.

On *Ilex nitida* (Vahl) Maxim, Porto Rico:—endemic.

47. **Meliola mayaguesiana** Stevens, Ill. Biol. Monog. **2**[4]: 32. 1916.

On *Palicourea crocea* (Sw.) R. & S., *P. domingensis* (Jacq.) DC., *P. riparia* Benth., Porto Rico:—endemic.

48. **Meliola Mayepeae** Stevens, Ill. Biol. Monog. **2**[4]: 48. 1916.

On *Mayepea domingensis* (Lam.) Krug & Urban, Porto Rico:—endemic.

49. **Meliola Merrillii** Sydow, Philippine Jour. Sci. **8**: 479. 1913.

On *Cissus sicyoides* L., Porto Rico:—Philippine Islands.

50. **Meliola Miconiae** Stevens, Ill. Biol. Monog. **2**[4]: 30. 1916.

On *Miconia prasina* (Sw.) DC., Porto Rico:—endemic.

51. **Meliola miconieicola** Stevens, Ill. Biol. Monog. **2**[4]: 23. 1916.

On *Miconia* sp., Porto Rico:—endemic.

52. **Meliola Molleriana** Winter, Hedwigia **25**: 98. 1886.

On *Sida urens* L., *Varronia* sp., Porto Rico:—Africa.

53. **Meliola monensis** Stevens, Ill. Biol. Monog. **2**[4]: 38. 1916.

On *Amyris elemifera* L., Mona Island:—endemic.

54. **Meliola Myrsinacearum** Stevens, Ill. Biol. Monog. **2**[4]: 40. 1916.

On *Icacorea guadalupensis* (Duch.) Britton, Myrsinaceae (indet.), Porto Rico:—endemic.

55. **Meliola nigra** Stevens, Ill. Biol. Monog. **2**[4]: 37. 1916.

On *Laguncularia racemosa* (L.) Gaertn., Porto Rico:—endemic.

56. **Meliola Ocoteae** Stevens, Ill. Biol. Monog. **2**[4]: 29. 1916.

On *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

57. **Meliola ocoteicola** Stevens, Ill. Biol. Monog. **2**[4]: 45. 1916.

On *Ocotea leucoxylon* (Sw.) Mez., *Chrysophyllum* sp., Porto Rico:—endemic.

58. **Meliola Panici** Earle, Muhlenbergia **1**: 12. 1901.

On grasses, *Andropogon bicornis* L., *Ichnanthus pallens* (Sw.) Munro, *Lasiacis divaricata* (L.) Hitchc., *Olyra latifolia* L., *Oplismenus hirtellus* (L.) Beauv., *Panicum glutinosum* Sw., *Paspalum paniculatum* L., Porto Rico:—endemic.

59. **Meliola parathesicola** Stevens, Ill. Biol. Monog. **2**[4]: 24. 1916.

On *Parathesis serrulata* (Sw.) Mez., Porto Rico:—endemic.

60. **Meliola paucipes** Stevens, Ill. Biol. Monog. **2**[4]: 42. 1916.

On *Piper blattarum* Spreng., Porto Rico:—endemic.

61. **Meliola Paulliniae** Stevens, Ill. Biol. Monog. **2**[4]: 45. 1916.

On *Casearia arborea* (L. C. Rich.) Urban, *C. aculeata* Jacq., *C. guianensis* (Aubl.) Urban [*C. ramiflora* Vahl], *C. sylvestris* Sw., *Mammea americana* L., *Paullinia pinnata* L., Porto Rico:—endemic.

62. **Meliola perexigua** Gaill. Ec. Sup. Phar. Paris **1892**: 98.

On *Petiveria alliacea* L., Porto Rico:—continental South America.

63. **Meliola Philodendri** Stevens, Ill. Biol. Monog. **2**[4]: 60. 1916.

On *Philodendron Krebsii* Schott, Porto Rico:—endemic.

64. **Meliola Pilocarpi** Stevens, Ill. Biol. Monog. **2**[4]: 41. 1916.

On *Pilocarpus racemosus* Vahl, Porto Rico:—endemic.

65. **Meliola Piperis** Earle, Muhlenbergia **1**: 12. 1901.

On *Piper aduncum* L., Porto Rico:—endemic.

66. **Meliola praetervisa** Gaill. Le Genre Meliola 78. 1892.

On *Coccolobis pirifolia* Desf., *C. Sintenisii* Urban, *Cupania americana* L., Porto Rico:—Java.

67. **Meliola Psidii** Fries, Linnaea **5**: 549. 1830.

On *Psidium Guajava* L., Porto Rico:—continental South America.

68. **Meliola Psychotriae** Earle, Bull. N. Y. Bot. Garden **3**: 308. 1905.

On *Borreria laevis* (Lam.) Griseb., *B. ocimoides* (Burm. f.) DC., *Chiococcoa alba* (L.) Hitchc., *Erithalis fruticosa* L., *Duggena hirsuta* (Jacq.) Britton [*Gonzalagunia spicata* (Lam.) G. Maza], *Guettarda scabra* (L.) Lam., *Mitracarpus portoricensis* Urban, *Psychotria* sp., *Randia mitis* L. [*Randia aculeata* L.], Porto Rico:—endemic.

69. **Meliola pteridicola** Stevens, Ill. Biol. Monog. **2**[4]: 28. 1916.

On *Adiantum latifolium* Lam., *Anemia adiantifolia* (L.) Sw., Porto Rico:—endemic.

70. **Meliola quadrispina** Rac. Par. Algen Pilze Java's III. 33. 1900.

On *Ipomoea cathartica* Poir., Porto Rico:—Java.

71. **Meliola rectangularis** Stevens, Ill. Biol. Monog. **2**[4]: 27. 1916.

On *Banisteria laurifolia* L., *Coccolobis laurifolia* Jacq., Porto Rico:—endemic.

72. **Meliola Rudolphiae** Stevens, Ill. Biol. Monog. **2**[4]: 43. 1916.

On *Neorudolphia volubilis* (Willd.) Britton, Porto Rico:—endemic.

73. **Meliola Serjaniae** Stevens, Ill. Biol. Monog. **2**[4]: 44. 1916.

On *Serjania polyphylla* (L.) Radlk., Porto Rico:—endemic.

74. **Meliola Smilacis** Stevens, Ill. Biol. Monog. **2**[4]: 56. 1916.

On *Smilax coriacea* Spreng., Porto Rico:—endemic.

75. **Meliola Solani** Stevens, Ill. Biol. Monog. **2**[4]: 15. 1916.

On *Solanum jamaicense* Mill., Porto Rico:—endemic.

76. **Meliola Stenotaphri** Stevens, Ill. Biol. Monog. **2**[4]: 41. 1916.

On *Paspalum plicatulum* Michx., *Stenotaphrum secundatum* (Walt.) Kuntze, Porto Rico:—endemic.

77. **Meliola Tabernaemontanae** Speg. Anal. Mus. Buenos Ayres **23**: 42. 1912.

On *Plumiera Krugii* Urban, *Rauwolfia tetraphylla* L. [*Rauwolfia nitida* Jacq.], *Tabernaemontana oppositifolia* (Spreng.) Urban, Porto Rico:—continental South America.

78. **Meliola Tabernaemontanae** var. **Forsteroniae** Stevens, Ill. Biol. Monog. **2**[4]: 50. 1916.

On *Forsteronia corymbosa* (Jacq.) G. F. W. Mey., Porto Rico:—variety endemic.

79. **Meliola Tecomae** Stevens, Ill. Biol. Monog. **2**[4]: 53. 1916.

On *Tabebuia pallida* Miers [*Tecoma pentaphylla* Juss.], Porto Rico:—endemic.

80. **Meliola tenuissima** Stevens, Ill. Biol. Monog. **2**[4]: 24. 1916.

On *Gouania lupuloides* (L.) Urban, Porto Rico:—endemic.

81. **Meliola Thouiniae** Earle, Bull. N. Y. Bot. Garden **3**: 308. 1905.

On *Allophylus crassinervis* Radlk., *Cupania americana* L., *Krugiodendron ferreum* (Vahl) Urban, *Thyana* [*Thouinia*] *striata* (Radlk.) Britton, *Canella Winterana* (L.) Gaertn., Porto Rico:—endemic.

82. **Meliola tortuosa** Winter; Gaill. Le Genre Meliola 67. 1892.

On *Piper Amalago* L., *Pothomorphe peltata* (L.) Miq., Porto Rico:—continental South America.

83. **Meliola toruloidea** Stevens, Ill. Biol. Monog. **2**[4]: 25. 1916.

On *Chamaefistula antillana* Britton & Rose, *Inga laurina* L., *I. Inga* (L.) Britton, Porto Rico:—endemic.

84. **Meliola Triumfettae** Stevens, Ill. Biol. Monog. **2**[4]: 30. 1916.

On *Pariti tiliaceum* (L.) St. Hil. [*Hibiscus tiliaceus* L.], *Triumfetta semitriloba* Jacq., Porto Rico:—endemic.

10. **MELIOLIDIUM** Speg. Bol. Acad. Ci. Cordoba **26**: 336. 1923.

1. **Meliolidium portoricensis** Speg. Bol. Acad. Ci. Cordoba **26**: 336. 1923.

On *Calophyllum antillanum* Britton [*Calophyllum Calaba* Jacq. not L.], Porto Rico:—endemic.

11. **PARODIELLA** Speg. Anal. Soc. Ci. Argent. **9**: 178. 1880.

1. **Parodiella perisporioides** (Berk. & Curt.) Speg. Anal. Soc. Ci. Argent. **2**: 178. 1880.

Dothidea perisporioides Berk. & Curt. Grevillea **4**: 103. 1876.
Dimerium grammodes Garman, Mycologia **7**: 335. 1915.
Myriosticta portoricensis Pat.; Stevenson, Jour. Dept. Agric. Porto Rico **2**: 147. 1918.

On *Crotalaria retusa* L., *Meibomia barbata* (L.) Kuntze, *Meibomia scorpiurus* (Sw.) Kuntze, *Phaseolus lunatus* L., *Vigna repens* (L.) Kuntze; also reported by Stevenson on *Meibomia adscendens* (Sw.) Kuntze, *Phaseolus vulgaris* L., Porto Rico:—Jamaica; continental America; Europe; Asia.

12. **PARODIOPSIS** Maub.; Arnaud, Bull. Soc. Myc. Fr. **31**: 22. 1915.

1. **Parodiopsis melioloides** (Winter) Maubl. Bull. Soc. Myc. Fr. **31**: 23. 1915.

Parodiella melioloides Winter, Hedwigia **24**: 257. 1885.
Sphaeria melioloides Berk. & Curt. Jour. Linn. Soc. **10**: 387. 1868.
Dimerosporium Urbanianum P. Henn. Hedwigia **33**: 231. 1894.
Dimerium melioloides Garman, Mycologia **7**: 336. 1915.

On *Cedrela odorata* L., *Clusia Krugiana* Urban, Porto Rico:—Cuba; continental South America.

2. **Parodiopsis Stevensii** Arnaud, Ann. Epiphyties **9**: 22. 1923.

On *Inga Inga* (L.) Britton [*Inga vera* (Sw.) Willd.], Porto Rico:—endemic.

13. **PERISPORINA** P. Henn. Hedwigia **43**: 357. 1904.

1. **Perisporina Lantanae** Stevens, Trans. Ill. Acad. Sci. **10**: 170. 1917.

On *Lantana Camara* L., Porto Rico:—endemic.

2. **Perisporina Meliolae** (Stevens) Speg. Bol. Acad. Ci. Cordoba **26**: 339. 1923.

Perisporium Meliolae Stevens, Bot. Gaz. **65**: 228. 1918.

On *Meliola compositarum portoricensis* Stevens, on *Critonia portoricensis* (Urban) Britton & Wilson [*Eupatorium portoricense* Urban], Porto Rico:—endemic.

3. **Perisporina Paulliniae** (Stevens) Speg. Bol. Acad. Ci. Cordoba **26**: 339. 1923.

Perisporium Paulliniae Stevens. Bot. Gaz. **65**: 228. 1918.

On *Paullinia pinnata* L., Porto Rico:—endemic.

4. **Perisporina portoricensis** (Stevens) comb. nov.

Perisporium portoricense Stevens, Trans. Ill. Acad. Sci. **10**: 169. 1917.

On *Calophyllum antillanum* Britton [*Calophyllum Calaba* Jacq. not L.], Porto Rico:—endemic.

5. **Perisporina truncatum** (Stevens.) Arnaud, Ann. Epiphyties **9**: 33. 1923.

Perisporium truncatum Stevens, Trans. Ill. Acad. Sci. **10**: 167. 1917.

On *Inga laurina* (Sw.) Willd., Porto Rico:—endemic.

14. **PHAEODIMERIELLA** Theiss. Beih. Bot. Centr. **29**[12]: 46. 1912.

1. **Phaeodimeriella Cayaponiae** (Garman) comb. nov.

Dimerosporium guarapiense Speg. Anal. Soc. Ci. Argent. **17**: 130. 1884.

On *Cyperus*, Porto Rico:—continental South America.

According to Theiss. & Sydow l. c., *Dimerosporium appendiculatum* Earle, reported on *Asterina Sidae* on *Sida carpinifolia* L. f. is a synonym of the above.

2. **Phaeodimeriella guarapiensis** (Speg.) Theiss. Beih. Bot. Centr. **29**[12]: 68. 1912.

Dimerium Cayaponiae Garman, Mycologia **7**: 335. 1915.

On *Cayaponia americana* (Lam.) Cogn., Porto Rico:—endemic.

The perithecium has three to four short cylindrical, hook-like setae which are not mentioned in the original description; also the fungus is not parasitic on the leaves but on another fungus.

15. **STEVENSULA** Speg. Bol. Acad. Ci. Cordoba **26**: 339. 1923.

1. **Stevensula monensis** Speg. Bol. Acad. Ci. Cordoba **26**: 339. 1923.

On *Meliola monensis* on *Amyris elemifera* L., Porto Rico:—endemic.

16. **TRICHOMERIUM** Speg.

1. **Trichomerium portoricense** Speg. Bol. Acad. Ci. Cordoba **26**: 341. 1923.

On living leaves of *Psidium Guajava* L., Porto Rico:—endemic.

17. **WAGERIA** Stevens & Dalbey, Mycologia **11**: 7. 1919.

1. **Wageria portoricensis** Stevens & Dalbey, Mycologia **11**: 7. 1919.

On *Duggena hirsuta* (Jacq.) Britton [*Gonzalagunia spicata* (Lam.) G. Maza], Porto Rico:—endemic.

According to Spegazzini this species may have been based on imperfectly developed specimens of *Phaeodimeriella guarapiense* Speg.

Family 3. **CAPNODIACEAE.**

1. **CAPNODIUM** Mont. Ann. Sci. Nat. III. **11**: 233. 1849.

1. **Capnodium Citri** (Pers.) Berk. & Desm. Jour. Royal Hort. Soc. **4**: 252. 1849.

Fumago Citri Pers. Myc. Eu. **1**: 9. 1822.

On *Citrus grandis* Osbeck [*Citrus decumana* L.], Porto Rico:—continental North America.

2. **Capnodium** sp.

On leaves of *Mangifera indica* L., St. Thomas:—

2. **PHAEOSACCARDINULA** P. Henn. Hedwigia **44**: 67. 1904.

Limacinula Sacc. Syll. Fung. **22**: 63. 1913.

1. **Phaeosaccardinula Seaveriana** Toro, Mycologia **17**: 145. 1925.

On *Erythrina glauca* Willd., Porto Rico:—endemic.

2. **Phaeosaccardinula tenuis** (Earle) comb. nov.

Antennularia ? tenuis Earle, Bull. N. Y. Bot. Garden **3**: 302. 1905.

On *Musa* sp., *Inga Inga* (L.) Britton [*Inga vera* (Sw.) Willd.], Porto Rico:—endemic.

3. **SEURATIA** Pat. Bull. Soc. Myc. Fr. **20**: 136. 1904.

1. **? Seuratia coffeicola** Pat. Bull. Soc. Myc. Fr. **20**: 136. 1904.

Reported on living leaves of *Psidium Guajava* by Spegazzini, Porto Rico:—Gambier.

The genus was believed by Höhnel to be the same as *Atichia* a genus of the Saccharomycetaceae.

4. **SORICA** Giesen. Ber. Deuts. Bot. Ges. **22**: 191. 1904.

1. **Sorica maxima** (Berk. & Curt.) Giesen. Ber. Deuts. Bot. Ges. **22**: 355. 1904.

Capnodium maximum Berk. & Curt. Jour. Linn. Soc. **10**: 391. 1868.
Corynelia pteridicola Stevens, Trans. Ill. Acad. Sci. **10**: 179. 1917.

On *Polypodium* sp., Porto Rico:—Cuba; Santo Domingo; continental South America.

5. **TRICHOTHYRIUM** Speg. Bol. Acad. Ci. Cordoba **11**: 555. 1889.

1. **Trichothyrium collapsum** (Earle) Theiss. Ann. Myc. **15**: 488. 1917.

Pseudomeliola collapsa Earle, Bull. N. Y. Bot. Garden **3**: 309. 1905.

On *Meliola* sp., on *Pothomorphe peltata* (L.) Miq., Porto Rico:—endemic.

2. **Trichothyrium dubiosum** (Bom. & Br.) Theiss. Beih. Bot. Cent. **32**[2]: 9. 1914.

Asterina dubiosa Bom. & Br. Bull. Soc. Bot. Belgium **32**: 157. 1896.

On *Irene Melastomacearum* (Speg.) Toro on *Clidemia hirta* (L.) D. Don, Porto Rico:—continental South America.

3. **Trichothyrium lomatophorum** (Ellis & Ev.) Toro, sp. nov.

Asteridium lomatophorum Ellis & Ev. (in herb.).

Spots circular, smoky-brown, 1–5 mm. in diameter, often confluent, then about 10 mm. across and angular; thyriothecia of radiate cellular structure, discoid, closely aggregate, superficial, dark, 50–320 μ in diameter; ostiolum minute, circular, about 3 μ in diameter; mycelium thickly appressed to the mycelium of the host, light brown, septate, about 2 μ thick; hyphae arranged side by side and originating from the same point at different places thus forming a series of fan-like structures; asci 8-spored, aparaphysate, clavate, short-stipitate; stipe 6–8 μ long, thick-walled, 20–30 $\times$ 12–15 μ; spores inordinate, 1-septate, not constricted, 10–15 $\times$ 3–4.5 μ, 1–2 guttulate hyaline.

Parasitic on the subiculum of *Meliola* sp. on *Pothomorphe peltata* (L.) Miq., Porto Rico Fungi (Heller) *142* Type.

Order 6. CORYNELIALES.

The plants comprising this order are typically parasitic although one or two species usually placed here are saprophytes. The family Coryneliaceae is usually included with the Perisporiales or the Sphaeriales but according to Fitzpatrick (Mycologia **12**: 206–237) does not fit either order well and is here treated as a separate order.

Family 1. CORYNELIACEAE.

1. **CORYNELIA** Ach.; Fries, Syst. Myc. **2**: 534. 1822.

1. **Corynelia portoricensis** (Stevens) Fitzp. Mycologia **12**: 259. 1920.

Corynelia clavata var. *portoricensis* Stevens, Trans. Ill. Acad. Sci. **10**: 178. 1917.

On *Nageia coriacea* (L. C. Rich.) Kuntze [*Podocarpus coriaceus* L. C. Rich.], Porto Rico:—endemic.

This was reported by Stevenson as *Corynelia creophila* (Speg.) Starb. So far as known the species of this genus attack only the one host genus and usually a given species of the fungus attacks only one host species.

Order 7. PSEUDOPERISPORIALES.

Rafael A. Toro.

Family 1. PSEUDOPERISPORIACEAE.

Aerial mycelium, colored, septate; perithecia superficial on the mycelium, ostiolate, parenchymatous, with or without appendages; asci globose or elongate, spores various; paraphyses present or absent.

The order differs from the Perisporiales in having perithecia with definite ostiolum.

1. **POROSTIGME** Syd. Ann. Myc. **15**: 202. 1917.

1. **Porostigme microspora** sp. nov.

Spots none; perithecia superficial, blackish, globose, 63–110 μ in diameter; ostiolate, parenchymatous, composed of indefinitely arranged globose to angular cells with dark cell-walls, ostiolum prominent, circular, 8–30 μ in diameter;

mycelium light brown, thickly interwoven with the mycelium of the host, septate, each cell about 10 μ long and 4 μ wide; asci aparaphysate, clavate, thick-walled, sessile, 8-spored, 44–52 × 8–10 μ; spores inordinate, 1-septate, cells subequal, not constricted at septum, 8–10 × 4–5 μ, light brown.

On *Meliola Panici* Earle, on *Panicum glutinosum* Sw. Herbarium University of Illinois, Porto Rico Fungi (Stevens) *6796*, (Type) Arecibo, Jan. 17, 1914.

This fungus has been referred to *Dimerium piceum* (Berk. & Curt.) Theiss. by Stevens (Bot. Gaz. **65**: 229). It is not a *Dimerium*, because the perithecia are ostiolate. It further differs from *D. piceum* in the absence of paraphyses and much smaller spores.

PSEUDOPERISPORIUM gen. nov.

Mycelium superficial, brownish, non-hyphopodiate; perithecia globose, membraneous, leathey, parenchymatous, setose; asci 8-spored; spores 4-celled, hyaline; paraphyses wanting.

The genus is related to *Dimeriella* Speg. from which it differs in the presence of ostiolum.

1. **Pseudoperisporium erigeronicola** (Stevens) comb. nov.

Dimeriella erigeronicola Stevens, Trans. Ill. Acad. Sci. **10**: 166. 1917.

On *Leptilon pusillum* (Nutt.) Britton, Porto Rico:—endemic.

Order 8. **HYPOCREALES.**

Perithecia superficial, with or without stroma.	Fam. 1. NECTRIACEAE.
Perithecia immersed in a stroma.	Fam. 2. HYPOCREACEAE

Family 1. **NECTRIACEAE.**

1. **CALONECTRIA** De-Not. Com. Critt. Ital. **2**: 477. 1867.

1. **Calonectria erubescens** (Rob.) Sacc. Michelia **1**: 309. 1878.

Sphaeria erubescens Rob.; Desm. Ann. Sci. Nat. III. **6**: 72. 1846.
Nectria portoricensis Stevens, Bot. Gaz. **65**: 231. 1918.

On the remains of *Meliola* on living leaves of various kinds, Porto Rico:—continental America; Trinidad.

The spores of the species are described as 1–3-septate. So far as the writer can judge, *Nectria portoricensis* Stevens has been described from immature material of the above or possibly the septation was overlooked.

2. **Calonectria gigaspora** Massee, Kew Bull. **1906**: 257.

On dead sugar cane, *Saccharum officinarum* L., Porto Rico:—Trinidad.

This species was originally described from Trinidad. The Porto Rican specimen has been compared with the type in the herbarium of the New York Botanical Garden, and found to agree.

3. **Calonectria melioloides** Speg. Anal. Soc. Ci. Argent. **19**: 41. 1886.

Calonectria graminicola Stevens, Bot. Gaz. **65**: 232. 1918.

On species of *Meliola* on living leaves, Porto Rico; Mona Island:—continental America. Specimens referred here should be *Subiculicola ambigua* Speg. and *Meliolophila graminicola* (Stev.) Speg.

4. **Calonectria ignota** Chardon, sp. nov.

Perithecia scattered, free and astromatic, dark orange, globose to subglobose, collapsed at the top and slightly pezizoid, smooth, with an ostiolum present; asci clavate to subclavate, 8-spored, 40–60 × 12–15 μ; spores inordinate in the ascus, fusiform to subcylindric, 7–9-septate, with greenish contents, 22–26 × 4–6 μ.

This species was determined in the herbarium as *Nectria episphaeria*, but a microscopical examination of it showed that the determination is incorrect. It possesses multiseptate spores, a character which makes it fall under *Calonectria*. In the treatment of the Hypocreales by Seaver (N. Am. Fl. **3**: 12–13. 1910), only three species of *Calonectria* are reported from North America. Our species differs from all three of them in the size and septation of the spores and also in the complete absence of a mycelium at the base of the perithecia.

On dead wood. Herbarium Insular Experiment Station (Stevenson & Rose) No. *6499*, Rio Piedras, June 18, 1917, Porto Rico:—endemic.

2. **CREONECTRIA** Seaver, Mycologia **1**: 183. 1909.

1. **Creonectria Bainii** (Massee) Seaver, N. Am. Fl. **3**: 22. 1910.

On pods of *Theobroma Cacao* L., Porto Rico:—Jamaica; Trinidad.

2. **Creonectria grammicospora** (Ferd. & Winge) Seaver, Mycologia **1**: 192. 1909.

Nectria grammicospora Ferd. & Winge, Bot. Tidssk. **29**: 11. 1908.

On dead bark of *Cajan Cajan* (L.) Millsp. [*Cajanus indicus* Spr.], Porto Rico; St. Thomas:—endemic.

3. **Creonectria Laurentiana** (Marchal) comb. nov.

Nectria Laurentiana Marchal, Bull. Soc. Belg. Micr. **20**: 259. 1894.

On *Saccharum officinarum* L., Porto Rico:—Africa.

This species has been reported by J. A. Stevenson on dead and dying cane stalks from various localities in Porto Rico. The species is said by its author to belong to the group Eu-Nectria which would place it in the genus *Creonectria* of the writers.

4. **Creonectria ochroleuca** (Schw.) Seaver, Mycologia **1**: 190. 1909.

Sphaeria ochroleuca Schw. Trans. Am. Phil. Soc. II. **4**: 204. 1852.
Nectria vulgaris Speg. Anal. Soc. Ci. Argent. **12**: 75. 1881.

On bark, Porto Rico; St. Thomas:—continental North America.

Nectria vulgaris which has been reported from St. Thomas is a synonym of *Creonectria ochroleuca*.

5. **Creonectria rubicarpa** (Cooke) Seaver, Mycologia **1**: 187. 1909.

Nectria rubicarpa Cooke, Grevillea **7**: 50. 1878.

This species has been reported from Porto Rico (Mycologia **13**: 285) but the material is scant and its identity, rather doubtful.

6. **Creonectria rubrosulphurea** Seaver, sp. nov.

Perithecia thickly congested, forming clusters about 4 mm. in diameter, each cluster containing few to many perithecia, the individual perithecia red, but covered with a beautiful coat of sulphur-yellow hairs; perithecial hairs, short, about 6–10 μ in diameter, several septate, blunt and often curved or hooked at the ends, minutely rough; asci clavate, 25–30 × 6–8 μ; spores partially 2-seriate, narrow ellipsoid, 4–6 × 8–12 μ, at maturity distinctly striate.

Type collected on dead cane, Rio Piedras, Feb. 3, 1914, J. R. Johnston *1346*; also on dead stick, *5696*, Porto Rico:—endemic.

In external appearance the species very closely resembles *Nectria flavociliata* to which name it was first referred. The plants, however, on closer examination are found to differ in the stromate character of the perithecia and the spores which are broader and distinctly striate. In this latter character it resembles *Nectria rhytidospora*.

7. **Creonectria macrospora** Chardon, sp. nov.

Perithecia in cespitose clusters, 2–3 mm. in diameter, densely crowded, surrounding a yellowish to orange colored stroma, the clusters containing 20–30 or more perithecia, individual perithecia large, 400–500 μ in diameter, dark red and possessing a brownish disk around the region of the ostiolum; asci clavate, 8-spored, 90–120 $\times$ 15–24 μ; spores biseriate, seldom uniseriate above or below, oblique elliptical to subfuscoid, 1-septate, large, 21–29 $\times$ 9–11.5 μ, hyaline, densely granular.

This interesting fungus has been referred to *Nectria Balansae* Speg. and published as a new combination under the genus *Creonectria*. Dr. Spegazzini has kindly supplied the author with a portion of the type of his species, from which the Porto Rican species seems to differ widely. The spores are much larger and the perithecia are provided with a conspicuous brown disk on which the ostiolum is centrally located. Furthermore, the perithecia never become pezizoid, while in *N. Balansae*, they are characteristically so. This last character, however, might be due to the old age of Spegazzini's material.

The species being essentially different from Spegazzini's and also from all the species of *Crconectria* given by Seaver from North America is given here as new. Prof. F. L. Stevens' No. *2965*, collected in Caracas, Venezuela, is also to be referred to this new form. The perithecia and spores are somewhat larger, but otherwise, the fungus agrees with the above description. The species possesses larger spores than any other *Creonectria* known from North America.

On dead wood. Herbarium Insular Experiment Station (Johnston) No. *4436*, Rio Piedras, June 16, 1912, a portion of which is deposited in Chardon's herbarium as No. *1274*, Porto Rico:—endemic.

3. **DEXTERIA** Stevens, Trans. Ill. Acad. Sci. **10**: 174. 1917.

1. **Dexteria pulchella** Stevens, Trans. Ill. Acad. Sci. **10**: 174. 1917.

Reported on *Paullinia pinnata* L., Porto Rico:—endemic.

This was made the type of a new genus which was said by its author to be closely related to *Calonectria* as would be indicated by the spore characters.

4. **BORINQUENIA** Stevens, Trans. Ill. Acad. Sci. **10**: 173. 1917.

1. **Borinquenia Miconiae** Stevens, Trans. Ill. Acad. Sci. **10**: 173. 1917.

On *Miconia laevigata* (L.) DC., Porto Rico:—endemic.

5. **GIBBERELLA** Sacc. Michelia **1**: 43. 1877.

1. **Giberella pulicaris** (Fries) Sacc. Michelia **1**: 43. 1877.

Sphaeria pulicaris Fries in Kunze & Schm. Myk. Hefte. **2**: 37. 1823.

On dead cane stalks and grass culms, Porto Rico:—North America; Europe; Africa; New Zealand.

6. **HYALOSPHAERIA** Stevens, Trans. Ill. Acad. Sci. **10**: 172. 1917.

1. **Hyalosphaeria Miconiae** Stevens, Trans. Ill. Acad. Sci. **10**: 172. 1917.

On *Miconia laevigata* (L.) DC., Porto Rico:—endemic.

This species is made the type of a new genus belonging to the Hypocreaceae.

7. **MACBRIDELLA** Seaver, Mycologia **1**: 195. 1909.

1. **Macbridella cinnabarina** Seaver, sp. nov.

Perithecia in dense clusters, 1–3 mm. in diameter, erumpent through the bark, cinnabar-red in mass, the individual perithecia covered with fine orange

granules, later becoming smooth and often dark colored; asci cylindric or subcylindric, 8-spored; spores obliquely 3-seriate, ellipsoid, with the ends slightly attenuated, constricted at the septum, pale brown, with distinct striations, usually containing two oil-drops, 6–7 × 34–16 μ.

On dead sticks, Porto Rico:—endemic.

Two collections of this species were made in Porto Rico during our recent collecting trip there. The species differs from *Macbridella striispora*, the only other species of the genus known from the island in the much smaller size of the spores as well as other points. Neither does it agree with any of the other species of this genus examined.

2. **Macbridella striispora** (Ellis & Ev.) Seaver, Mycologia **1**: 196. 1909.

Nectria striispora Ellis & Ev. Bull. Lab. Nat. Hist. State Univ. Iowa **2**: 398. 1893.

On bark, Porto Rico:—Central America; Trinidad.

8. **MEGALONECTRIA** Speg. Anal. Soc. Ci. Argent. **12**: 217. 1881.

1. **Megalonectria pseudotrichia** (Schw.) Speg. Anal. Soc. Ci. Argent. **12**: 217. 1881.

Sphaeria pseudotrichia Schw.; Berk. & Curt. Jour. Acad. Phila. II. **2**: 289. (as synonym) 1853.

On dead wood and bark, Porto Rico:—Jamaica; continental America; Ceylon; Philippine Islands.

9. **NECTRIA** Fries, Summa Veg. Scand. 387. 1849.

1. **Nectria Ananatis** sp. nov.

Perithecia rather sparingly scattered or occasionally in close contact but with no evidence of a stroma, pale yellow (in dried specimens); asci cylindric, 8-spored; spores fusoid, about 3 × 10μ.

Type collected by J. R. Johnston (*4519*), on leaves of pineapple, *Ananas Ananas* (L.) Cockerell, Rio Piedras, Aug. 7, 1912, Porto Rico:—endemic.

2. **Nectria confluens,** Seaver sp. nov.

Perithecia thickly gregarious and when coming into contact fusing together often forming confluent masses resembling a *Hypomyces*, bright red, covered with rusty granules, giving the whole mass a rust-red color; asci 8-spored, clavate, 60–75 × 10 μ; spores 1-seriate or 2-seriate at the upper end of the ascus, ellipsoid, attenuated at either end, 1-septate, scarcely constricted, at maturity delicately striated, about 5 × 12 μ.

Type collected by J. A. Stevenson (*3895*) on old pods of sword beans, Rio Piedras, Porto Rico:—endemic.

3. **Nectria episphaeria** (Tode) Fries, Summa. Veg. Scand. 388. 1849.

Sphaeria episphaeria Tode, Fungi Meckl. **2**: 21. 1791.

On dead wood, on or associated with old sphaeriaceous fungi, Porto Rico:—Cuba; Trinidad; continental America; Europe.

4. **Nectria meliolicola** Stevens, Bot. Gaz. **65**: 231. 1918.

Reported on *Meliola* on *Cascaria sylvestris* Sw., *C. arborea* (L. C. Rich.) Urban, Porto Rico:—endemic.

5. **Nectria rhytidospora** Pat. Jour. de Bot. **3**: 343. 1889.

On bark, Porto Rico:—Martinique; Jamaica.

6. **Nectria suffulta** Berk. & Curt. Jour. Linn. Soc. **10:** 378. 1868.

Nectria setosa Ferd. & Winge, Bot. Tidssk. **29:** 11. 1908.

On dead stems of *Musa;* also on dead stems and leaves of undetermined herbaceous plants, Porto Rico; St. Thomas; St. Jan:—Cuba; Mexico.

10. **OPHIONECTRIA** Sacc. Michelia **1:** 323. 1878.

1. **Ophionectria Palicoureae** Seaver & Whetzel, sp. nov.

Perithecia hypophyllous, scattered, white to the naked eye, under the microscope yellowish or flesh-colored, covered over with a white floccose substance, reaching a diameter of about 300 μ opening with a wide ostiolum; asci cylindrical, slightly attenuated at the base, reaching a length of 100 μ and a diameter of 6 μ; spores filiform nearly as long as the ascus, about 3 μ in diameter; paraphyses very slender, about 1 μ in diameter, branched, coiled and intertwined.

On living leaves of *Palicourea* sp., Porto Rico:—endemic.

Whetzel, Kern & Toro, No. *2682*—Cornell University Herb. *14743*.

2. **Ophionectria portoricensis** Chardon, Mycologia **13:** 285. 1921.

On a log, Porto Rico:—(Dominica ?).

This is thought by some students of fungi to be identical with *Calonectria ornata* A. L. Smith (Jour. Linn. Soc. **36:** 18. 1901), from Dominica. No authentic material of this species is available for comparison so the matter must remain in doubt.

11. **PARANECTRIA** Sacc. Michelia **1:** 317. 1878.

1. **Paranectria meliolicola** Stevens, Bot. Gaz. **65:** 232. 1918.

On *Meliola* on species of *Piper*, Porto Rico:—endemic.

2. **Paranectria Miconiae** Stevens, Bot. Gaz. **65:** 233. 1918.

On Microthyriaceous fungus on *Miconia*, Porto Rico:—endemic.

12. **PSEUDONECTRIA** Seaver, Mycologia **1:** 48. 1909.

1. **Pseudonectria pipericola** Stevens, Bot. Gaz. **65:** 230. 1918.

On *Meliola tortuosa* Winter, on *Piper marginatum* Jacq., Porto Rico:—endemic.

The species is said to be closely related to *Nectria mycetophila* Peck.

13. **SCOLECONECTRIA** Seaver, Mycologia **1:** 197. 1909.

1. **Scoleconectria coccicola** (Ellis & Ev.) Seaver, Mycologia **1:** 198. 1909.

Nectria coccicola Ellis & Ev. Jour. Myc. **2:** 39. 1886.

On scale insects on species of *Citrus*, Porto Rico:—Cuba; continental North America.

14. **SPHAERODERMATELLA** Seaver, Mycologia **1:** 182. 1909.

1. **Sphaerodermatella Helleri** (Earle) Seaver, Mycologia **1:** 182. 1909.

On bark of tree, Porto Rico:—endemic.

Fitzpatrick regards this as a *Tympanopsis*, a genus belonging to the Cucurbitariaceae.

15. **SPHAEROSTILBE** Tul. Fung. Carp. **1**: 130. 1861.

1. **Sphaerostilbe coccophila** (Desm.) Tul. Fung. Carp. **1**: 130. 1861.

Microcera coccophila Desm. Ann. Sci. Nat. III. **10**: 359. 1848.

On scale insects on species of *Citrus*, Porto Rico:—continental North America.

2. **Sphaerostilbe mammiformis** Chardon, sp. nov.

Stromata consisting of several slender stalks, 1–2 mm. high, of a pale orange color, with several globose heads (*Stilbum*); conidia ellipsoid, 1-septate, with hyaline, granular contents, 23–26 × 8–10 μ; perithecia in dense, cespitose clusters, following the crevices of the bark, 15–30 in each cluster, pale yellow, provided with a distinct red, mammiform ostiolum, the individual perithecia 500 μ in diameter, subglobose and not collapsing; asci cylindrical clavate, 8-spored, 90–100 × 12–15 μ; spores mostly biseriate, subfusoid, 1-septate, not constricted, 22–23 × 5–6 μ; provided with several greenish oil drops.

This species is characterized by the possession of a very conspicuous, mammiform ostiolum of a different color than the perithecia.

On dead bark, Cornell University Explorations of Porto Rico (Chardon No. *1270*, Maricao, Nov. 11, 1921), Porto Rico:—endemic.

16. **THYRONECTRIA** Sacc. Grevillea **4**: 21. 1875.

1. **Thyronectria megalosphora** (Speg.) comb. nov.

Pleonectria megalospora Speg. Anal. Soc. Ci. Argent. **12**: 82. 1881.

On dead and dying bark of *Cajan Cajan* (L.) Millsp. [*Cajanus indicus* Spreng.], Porto Rico:—South America.

This was apparently erroneously reported by Stevenson under the name of *Pleonectria megalonectria*.

Family 2. **HYPOCREACEAE.**

1. **BALANSIA** Speg. Anal. Soc. Ci. Argent. **19**: 45. 1885.

1. **Balansia Hypoxylon** (Peck) Atk. Jour. Myc. **11**: 254. 1905.

Epichloe Hypoxylon Peck, Ann. Rep. N. Y. State Mus. **27**: 108. 1875.

The only Porto Rican specimen referred to this species which has been seen is not a *Balansia* but a *Dothichloe*. Whether the true *Balansia Hypoxylon* occurs in Porto Rico is uncertain. It has been reported by Stevenson on *Panicum trichanthum* Nees, Porto Rico (?):—continental North America.

2. **CHROMOCREA** Seaver, Mycologia **2**: 58. 1910.

1. **Chromocrea gelatinosa** (Tode) Seaver, Mycologia **2**: 58. 1910.

Sphaeria gelatinosa Tode, Fungi Meckl. **2**: 48. 1791.

On dead cane stalks and debris, Porto Rico:—continental North America; Europe.

3. **CHROMOCREOPSIS** Seaver, Mycologia **2**: 63. 1910.

1. **Chromocreopsis striispora** Stevenson, Jour. Dept. Agr. Porto Rico **1**: 213. 1917.

On dead cane stalks, Porto Rico:—endemic.

4. **CORDYCEPS** (Fries) Link, Handb. **3**: 347. 1833.

1. **Cordyceps Barberi** Giard. Compt. Rend. Soc. Biol. Paris 1894: 823.

On larvae of *Diatraea saccharalis*, Porto Rico:—Barbados; Antigua.

This species has been recorded by Stevenson but apparently only the *Isaria* stage has been found.

2. **Cordyceps dipterigena** Berk. & Br. Jour. Linn. Soc. **14**: 111. 1875.

Reported on drosophalid flies, Porto Rico:—Ceylon.

3. **Cordyceps militaris** (L.) Link, Handb. **3**: 347. 1833.

Clavaria militaris L. Sp. Pl. 1182. 1753.

On pupa, Porto Rico:—widely distributed.

5. **HYPOCREA** Fries, Syst. Orbis Veg. 104. 1825.

1. **Hypocrea jecorina** Berk. & Br. Jour. Linn. Soc. **14**: 112. 1875.

On dead trunk of *Melia Azedarach* L., Porto Rico:—Ceylon.

Known in Porto Rico from only one collection made at the Insular Experiment Station.

2. **Hypocrea patella** Cooke & Peck; Peck, Ann. Rep. N. Y. State Mus. **29**: 57. 1878.

On dead wood, Porto Rico:—continental North America; Bermuda; Jamaica.

3. **Hypocrea rufa** (Pers.) Fries, Summa Veg. Scand. 383. 1849.

Sphaeria rufa Pers. Obs. Myc. **1**: 20. 1796.

On dead cane trash and dead wood, Porto Rico:—continental North America;

6. **HYPOCRELLA** Sacc. Michelia **1**: 322. 1878.

1. **Hypocrella cretacea** Höhn, Sitz.-ber. Akad. Wien **118**: 311. 1909.

On scale insects on living leaves, especially on ferns, Porto Rico:—Java.

2. **Hypocrella disjuncta** Seaver, Mycologia **12**: 97. 1920.

On white fly on *Batocydia Unguis* (L.) Mart. [*Bignonia Unguis* L.], Porto Rico:—Trinidad.

During a recent collecting trip in Porto Rico this species was found to be very abundant on the above plant host. No attempt was made to identify the insect host. It is possible that this fungus might be successfully used in checking the insect parasite.

3. **Hypocrella Tamoneae** Earle; Seaver, Mycologia **2**: 87. 1910.

On leaves of *Miconia* [*Tamonea*] sp., Porto Rico:—endemic.

This species is known only from the type collection in the herbarium of The New York Botanical Garden. From its superficial resemblance it has been confused with *Dothidina peribebuyensis* (Speg.) Chardon, which occurs on the same host genus. According to Toro this is *Polystigma nigroviride* Rehm.

4. **Hypocrella turbinata** (Berk.) Petch, Ann. Royal Bot. Gard. Perad. **5**: 535. 1914.

Aschersonia turbinata Berk. Ann. Mag. Nat. Hist. II. **9**: 199. 1852.

On scale insects, Porto Rico:—Santo Domingo; Trinidad; continental North America.

The conidial stage of this fungus is very common but the ascigerous stage is less frequently encountered.

7. **HYPOMYCES** (Fries) Tul. Ann. Sci. Nat. IV. **13**: 11. 1860.

1. **Hypomyces rosellus** (Albert. & Schw.) Tul. Ann. Sci. Nat. IV. **13**: 12. 1860.

Sphaeria rosella Albert. & Schw. Consp. Fung. 35. 1805.

On *Coriolopsis rigida* (Berk. & Mont.) Murrill, on rotten wood, Porto Rico; on tremellaceous fungus, St. Thomas:—Cuba; continental North America; Europe.

2. **Hypomyces** sp.

On old *Polyporus*, Porto Rico.

Collected by B. Fink. The spores are small and possibly not quite mature so that the identity of the species is uncertain.

8. **PODOSTROMA** Karst. Hedwigia **31**: 294. 1892.

1. **Podostroma brevipes** (Mont.) Seaver, Mycologia **2**: 61. 1910.

Cordyceps brevipes Mont. Syll. Crypt. 201. 1856.

On dead wood, Porto Rico:—continental America.

2. **Podostroma orbiculare** Chardon, Mycologia **13**: 286. 1921.

On decaying log, Porto Rico:—endemic.

Said to differ from other species in its woody stroma.

9. **STILBOCREA** Pat. Bull. Soc. Myc. Fr. **16**: 186. 1901.

1. **Stilbocrea hypocreoides** (Kalchbr. & Cooke) Seaver, Mycologia **2**: 62. 1910.

Sphaerostilbe hypocreoides Kalchbr. & Cooke, Grevillea **9**: 26. 1880.
Sphaerostilbe intermedia Ferd. & Winge, Bot. Tidssk. **29**: 12. 1908.

On dead wood, Porto Rico:—continental North America; Africa.

Chardon (Mycologia **13**: 286) regards *Stilbocrea intermedia* (Ferd. & Winge) Seaver as a possible synonym of this species which would extend its range to the Island of St. Thomas; St. Jan and Trinidad.

10. **SPERMOEDIA** Fries, Syst. Myc. **2**: 268. 1822.

1. **Spermoedia Stevensii** Seaver, Mycologia **3**: 222. 1911.

Reported on *Paspalum plicatulum* Michx., Porto Rico:—continental North America.

Species of Doubtful Relationship.

GLAZIELLA Berk. Vidensk. Medd. Nat. Dor. Kioben **1879-80**: 31.

Glaziella aurantiaca (Berk. & Curt.) Sacc. Syll. Fung. **2**: 582. 1883.

Xylaria aurantiaca Berk. & Curt. Jour. Linn. Soc. **10**: 382. 1868.

On dead wood, Porto Rico:—Jamaica; Santo Domingo; Trinidad; Mexico.

USTILAGINOIDEA Bref. Unters. Gesammt. Myk. **12**: 194. 1895.

Ustilagionoidea usambarensis P. Henn. in Engler. Bot. Jahr. **23**: 239. 1897.

On *Panicum laxum* Sw., Porto Rico:—Africa.

Order 9. **DOTHIDEALES.**

Stromata superficial or becoming so.	Fam. 1. Dothideaceae.
Stromata formed under the cuticle and remaining covered.	Fam. 2. Phyllachoraceae.

Family 1. **DOTHIDEACEAE.**

1. **DOTHICHLOE** Atk. Bull. Torrey Club **21**: 223. 1894.

1. **Dothichloe atramentosa** (Berk. & Curt.) Atk. Jour. Myc. **11**: 260. 1905.

Hypocrea atramentosa Berk. & Curt. Jour. Linn. Soc. **10**: 377. 1868.

On *Andropogon leucostachys* H. B. K., *Eustachys petraea* (Sw.) Desv. [*Chloris petraea* Sw.], Porto Rico:—continental North America.

2. **Dothichloe Aristidae** Atk. Bull. Torrey Club **21:** 224. 1894.

On *Aristida portoricensis* Pilger, Porto Rico:—southern United States.

Known only from a single collection in Porto Rico obtained at Mayaguez, Mar. 7, 1916, by Whetzel and Olive.

3. **Dothichloe subnodosa** (Atk.) Chardon, Mycologia **13:** 287. 1921.

Balansia subnodosa Atk.; Chardon, Mycologia **13**: 287. 1921.

On *Ichnanthus pallens* (Sw.) Munro, Porto Rico:—southern United States.

This species has been previously reported under the names *Dothichloe nigricans* and *Dothichloe Aristidae* but is now regarded as distinct from either.

2. **DOTHIDELLA** Speg. Anal. Soc. Ci. Argent. **9:** opp. 192; **10:** 21. 1880.

1. **Dothidella flava** Stevens, Bot. Gaz. **69:** 250. 1920.

On *Lithachne pauciflora* (Sw.) Beauv., Porto Rico:—endemic.

2. **Dothidella Parryi** (Farlow) Theiss. & Syd. Ann. Myc. **13:** 312. 1915.

Endothia Parryi Farlow; Cooke, Grevillea **13**: 102. 1884.

On *Agave sisalana* Perrine and *Furcraea tuberosa* Ait., Porto Rico:—south western United States.

3. **Dothidella portoricensis** Stevens, Bot. Gaz. **69:** 249. 1920.

On *Dicranopteris* [*Gleichenia* sp.], Porto Rico:—endemic.

3. **DOTHIDINA** Theiss. & Syd. Ann. Myc. **13:** 302. 1915.

1. **Dothidina palmicola** (Speg.) Theiss. & Syd. Ann. Myc. **13:** 304. 1915.

Auerswaldia palmicola Speg. Anal. Soc. Ci. Argent. **19**: 247. 1883.

On *Euterpe globosa* Gaertn., Porto Rico:—continental South America.

2. **Dothidina peribebuyensis** (Speg.) Chardon, Mycologia **13:** 289. 1922.

Phyllachora peribebuyensis Speg. Anal. Soc. Ci. Argent. **19**: 244. 1886.
Auerswaldia Miconiae P. Henn. Hedwigia **43**: 253. 1904.

On *Heterotrichum cymosum* (Wendl.) Urban, *Miconia laevigata* (L.) DC., *M. prasina* (Sw.) DC., *M. Sintenisii* Cogn., *Tetrazygia elaeagnoides* (Sw.) DC., Porto Rico:—continental South America.

4. **ULEODOTHIS** Theiss. & Syd. Ann. Myc. **13:** 305. 1915.

1. **Uleodothis Pteridis** Stevens, Bot. Gaz. **69:** 248. 1920.

On *Pteridium caudatum* (L.) Maxon, Porto Rico:—endemic.

Family 2. **PHYLLACHORACEAE.**

1. **CATACAUMA** Theiss. & Syd. Ann. Myc. **12:** 280. 1914.

1. **Catacauma Myrciae** (Lév.) Theiss. & Syd. Ann. Myc. **13:** 393. 1915.

Dothidea Myrciae Lév., Ann. Sc. Nat. III. **5**: 264. 1846.
Phyllachora Myrciae Sacc. Syll. Fung. **2**: 597. 1883.

On *Myrcia citrifolia* (Aubl.) Urban [*Myrcia paniculata* (Jacq.) Krug & Urban], Porto Rico; Virgin Islands:—continental South America.

2. **Catacauma Ocoteae** Stevens, Bot. Gaz. **69:** 251. 1920.

On *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

3. **Catacauma palmicola** Stevens, Bot. Gaz. **69**: 251. 1920.

On *Thrinax microcarpa* Sargent, Porto Rico:—endemic.

4. **Catacauma repens** (Corda) Theiss. & Syd. Ann. Myc. **13**: 383. 1915.

Sphaeria repens Corda, Ic. Fung. **4**: 142. 1840.

On *Ficus Stahlii* Warb., Porto Rico:—India.

5. **Catacauma Urbanianum** (Allesch. & P. Henn.) Theiss. & Syd. Ann. Myc. **13**: 394. 1915.

Phyllachora Urbaniana Allesch. & P. Henn. Hedwigia **36**: 236. 1897.

On *Calyptranthes Krugii* Kiaersk., Porto Rico:—continental South America.

2. **CATACAUMELLA** Theiss. & Syd. Ann. Myc. **13**: 400. 1915.

1. **Catacaumella Gouaniae** Stevens, Bot. Gaz. **69**: 252. 1920.

On *Gouania polygama* (Jacq.) Urban, *G. lupuloides* (L.) Urban, Porto Rico:—endemic.

3. **DIATRACTIUM** Syd. Ann. Myc. **18**: 183. 1920.

Trabutiella Stevens, Bot. Gaz. **70**: 401. 1920. Not *Trabutiella* Theiss. & Syd. Ann. Myc. **12**: 180. 1914.

1. **Diatractium Cordiae** (Stevens) Syd. l. c.

Trabutiella Cordiae Stevens, Bot. Gaz. **70**: 401. 1920.

On *Cordia glabra* L. [*Cordia Collococca* L.], Porto Rico:—endemic.

4. **ENDODOTHELLA** Theiss. & Syd. Ann. Myc. **13**: 582. 1915.

1. **Endodothella tetraspora** C. R. Orton, sp. nov.

Clypei black, amphigenous but most fully developed on upper leaf surface, scattered or sometimes confluent, 0.2–0.3 mm. wide by 0.5–1.0 mm. long, chiefly between the prominent leaf vines; fructification compound, the ascocarps chiefly in linear series, covered by the thick epiphyllous clypeus; ascocarps vertically compressed, often fan-shaped, 120–200 μ wide by 80–120 μ high, walls thick; asci chiefly cylindrical, sometimes narrowly ellipsoid 10–12 $\times$ 65–80 μ, walls thin, fragile; 4 ascospores, uniseriate, at first one-celled becoming septate toward maturity, narrowly ovoid, usually attenuated below, 6–8 $\times$ 20–26 μ, wall colorless; paraphyses filiform, much longer than the asci.

Like *Phyllachora* in appearance but ascospores 2-celled on maturity. Further characterized by the 4-spored ascus.

On *Andropogon bicornis* L.—El Yunque. Type collected on El Yunque, April 14, 1916. (Whetzel & Olive *449*), Porto Rico:—endemic.

5. **ENGLERODOTHIS** Theiss. & Syd. Ann. Myc. **13**: 285. 1915.

1. **Englerodothis kilimandscharica** (P. Henn.) Theiss. & Syd. Ann. Myc. **13**: 285. 1915.

Cocconia kilimandscharica P. Henn. in Engler, Pfl. Ost-Afr. **5**: 31. 1895.

? *Phyllachora Mayepeae* Stevens & Dalbey, Bot. Gaz. **68**: 56. 1919.

On *Mayepea domingensis* (Lam.) Krug & Urban, Porto Rico:—East Africa.

6. **MYRIOGENOSPORA** Atk. Bull. Torrey Club **21**: 225. 1894.

1. **Myriogenospora Bresadoleana** P. Henn. Hedwigia **41**: 9. 1902.

On *Andropogon bicornis* L., *Axonopus compressus* (Sw.) Beauv., *Ichnanthus pallens* (Sw.) Munro, *Paspalum conjugatum* Berg., Porto Rico:—continental South America.

2. **Myriogenospora Paspali** Atk. Bull. Torrey Club **21**: 225. 1894.

On *Paspalum conjugatum* Berg., Porto Rico:—continental North America.

7. **PHYLLACHORA** Nitschke, Fuckel, Symb. Myc. 216. 1869.

1. **Phyllachora Acaciae** P. Henn. Hedwigia **33**: 233. 1894.

Phyllachora texana Tharp, Mycologia **9**: 118. 1917.

On *Vachellia Farnesiana* (L.) Wight & Arn., Porto Rico:—Cuba; Bahama; continental North America.

2. **Phyllachora acuminata** Starb. Arkiv. Bot. 5^2: 11. 1905.

On *Paspalum* sp., Porto Rico:—continental South America.

3. **Phyllachora Andropogonis** (Schw.) Karst. & Hariot, Rev. Myc. **12**: 172. 1890.

? *Sphaeria Andropogonis* Schw. Trans. Am. Phil. Soc. II. **4**: 209. 1832.

Reported from Porto Rico on *Paspalum millegrana* Schrad. but the determination of the fungus is doubtful. Orton thinks that the species reported under this name should be referred to some other name.

4. **Phyllachora assimilis** Theiss. & Syd. Ann. Myc. **13**: 439. 1915.

On *Schizachyrium brevifolium* (Sw.) Nees [*Andropogon brevifolius* Sw.], Porto Rico:—Himalaya.

5. **Phyllachora Banisteriae** Stevens & Dalbey, Bot. Gaz. **68**: 54. 1919.

On *Stigmaphyllon tomentosum* (Desf.) Ndz. [*Banisteria tomentosa* Desf.], Porto Rico:—endemic.

6. **Phyllachora Bourreriae** Stevens & Dalbey, Bot. Gaz. **68**: 54. 1919.

On *Bourreria succulenta* Jacq., Porto Rico:—endemic.

7. **Phyllachora Canafistulae** Stevens & Dalbey, Bot. Gaz. **68**: 55. 1919.

On *Cassia fistula* L., *C. grandis* L. f., Porto Rico:—Santo Domingo.
Formerly reported as *Phyllachora Cassiae* P. Henn., by Stevenson.

8. **Phyllachora Chardoni** C. R. Orton, sp. nov.

Clypei black, chiefly epiphyllous, scattered, 0.2–0.3 mm. wide × 0.3–0.5 mm. long; fructification simple or compound, the ascocarps vertically flattened, 160–260μ wide × 80–120μ high; asci ellipsoid, 12–22 × 65–110 μ; 8 ascospores, usually biseriate, rarely uniseriate in arrangement, ellipsoid, 6.5–7.5 × 11–14μ; wall colorless; paraphyses filiform, much longer than the asci.

Distinguished from *Phyllachora puncta* (Schw.) Orton by the smaller clypei and the biseriate arrangement of ascospores which are also larger; from *Phyllachora congruens* Rehm, by the longer asci and broader ascospores. Named in honor of the Commissioner of Agriculture of Porto Rico.

On Poaceae: *Panicum geminatum* Forsk.

Type locality: Mayaguez, July 15, 1920, C. E. Chardon *912*. Porto Rico:—endemic.

9. **Phyllachora cornuospora** Atk. Bull. Cornell Univ. **3**: 11. 1897.

On *Paspalum virgatum* L., Porto Rico:—continental North America.

10. **Phyllachora Cyperi** Rehm in Thüm. Contr. Fl. Myc. Lus. No. *232*.
On *Cyperus giganteus* Vahl, Porto Rico:—Europe.

11. **Phyllachora drypeticola** Stevens & Dalbey, Bot. Gaz. **68**: 55. 1919.
On *Drypetes lateriflora* (Sw.) Krug & Urban, Porto Rico:—Europe.

12. **Phyllachora Engleri** Speg. Anal. Soc. Ci. Argent. **19**: 96. 1885.
On *Anthurium scandens* (Aubl.) Engler, Porto Rico:—Jamaica; Cuba; Guatemala; Trinidad; continental South America.

13. **Phyllachora Eriochloae** Speg. Anal. Mus. Nac. Buenos Aires **19**: 416. 1909.
On *Paspalum conjugatum* Berg., *Valota insularis* (L.) Chase, Porto Rico:—continental South America.

14. **Phyllachora fusicarpa** Seaver in Britton, Bahama Fl. 633. 1920.
On *Duranta repens* L., Porto Rico:—Bahamas.

15. **Phyllachora Galactiae** Earle; Seaver in Britton, Bahama Fl. 633.
On *Galactia striata* (Jacq.) Urban, Porto Rico:—Bahamas.

16. **Phyllachora Genipae** Stevens & Dalbey, Bot. Gaz. **68**: 55. 1919.
On *Genipa americana* L., Porto Rico:—endemic.

17. **Phyllachora Graminis** (Pers.) Fuckel, Symb. Myc. 216. 1869.
Sphaeria Graminis Pers. Obs. Myc. **1**: 18. 1796.
Reported from Porto Rico on various grasses but the determination of the fungus is doubtful.

18. **Phyllachora gratissima** Rehm, Hedwigia **31**: 306. 1892.
On *Persea Persea* (L.) Cockerell, Porto Rico:—continental South America.

19. **Phyllachora Heterotrichi** Stevens & Dalbey, Bot. Gaz. **68**: 56. 1919.
On *Heterotrichum cymosum* (Wendl.) Urban, Porto Rico:—endemic.

20. **Phyllachora inclusa** (Berk. & Curt.) Sacc. Syll. Fung. **3**: 599. 1883.
Dothidea inclusa Berk. & Curt. Proc. Am. Acad. Arts & Sci. **4**: 129. 1860.
On *Jacquinia Berterii* Spreng., Porto Rico:—Nicaragua.

21. **Phyllachora Lathyri** (Lév.) Theiss. & Syd. Ann. Myc. **13**: 501. 1915.
Dothidea Lathyri Lév. Demidoff Voyage **2**: 106. 1915.
On *Bradburya virginiana* (L.) Kuntze, Porto Rico:—Europe; Asia.

22. **Phyllachora luteo-maculata** (Schw.) Orton; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 152. 1918.
Sphaeria luteo-maculata Schw. Trans. Am. Phil. Soc. II. **4**: 209. 1832.
On *Andropogon leucostachys* H.B.K., Porto Rico:—continental North America.

23. **Phyllachora Maydis** Maubl. Bull. Soc. Myc. Fr. **20**: 72. 1904.
On *Zea Mays* L., Porto Rico:—continental North America.

24. **Phyllachora Metastelmae** Stevens & Dalbey, Bot. Gaz. **68:** 57. 1919.

On *Metastelma* sp., Porto Rico:—endemic.

25. **Phyllachora Massinii** Toro, sp. nov.

Spots amphigenous, purplish, slightly exceeding the stroma, often confluent, irregular; stromata small, black, shining, visible on both sides of the leaf but prominent on the upper surface, occupying the mesophyll, 1–2 mm. in diameter, plurilocular; locules globose, 182–235 × 160–200 μ; asci cylindrical, 8-spored, 76–100 × 10–14 μ; spores obliquely uniseriate, ellipsoidal, hyaline, continuous, 13–17 × 5–7 μ; paraphyses filiform.

On *Brunellia comocladifolia* H. & B. Expl. of P. R. (W. K. & T. *2482*) Type. Yuaco, June 16, 1924.

On same leaf with *Asterina Kernii* Toro.

26. **Phyllachora minuta** P. Henn. Hedwigia **41:** 143. 1902.

On *Pariti tiliaceum* (L.) St. Hil. [*Hibiscus tiliaceus* L.], Porto Rico:—Java; Philippines; Australia.

27. **Phyllachora Nectandrae** Stevens & Dalbey, Bot. Gaz. **68:** 57. 1919.

On *Nectandra patens* (Sw.) Griseb., Porto Rico:—endemic.

28. **Phyllachora nitens** Garman, Mycologia **7:** 339. 1915.

On *Schlegelia portoricensis* (Urban) Britton (Erroneously reported as *Schlegelia brachyantha* Griseb.), Porto Rico:—endemic.

29. **Phyllachora ocoteicola** Stevens & Dalbey, Bot. Gaz. **68:** 57. 1919.

On *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

30. **Phyllachora perforans** (Rehm) Sacc. & Syd. in Sacc. Syll. Fung. **16:** 619. 1902.

Phyllachora dalbergiicola var. *perforans* Rehm, Hedwigia **39:** 232. 1900.

On *Elsota virgata* (Sw.) Kuntze [*Securidaca virgata* Sw.], Porto Rico:—continental South America.

31. **Phyllachora Phaseoli** (P. Henn.) Theiss. & Syd. Ann. Myc. **13:** 507. 1915.

Physalospora Phaseoli P. Henn. Hedwigia **43:** 368. 1904.
Hyponectria Phaseoli Stevens, Bot. Gaz. **70:** 401. 1920.

On *Vigna vexillata* (L.) A. Rich., Porto Rico:—continental South America. Conidial stage *Zythia Phaseoli* Stevens.

32. **Phyllachora puncta** (Schw.) Orton; Stevenson, Jour. Dept. Agr. Porto Rico **2:** 153. 1918.

Sphaeria punctum Schw. Trans. Am. Phil. Soc. II. **4:** 209. 1832.

On *Oplismenus hirtellus* (L.) Beauv., *O. setarius* R. & S., Porto Rico:—continental South America.

33. **Phyllachora quadraspora** Tehon, Bot. Gaz. **67:** 507. 1919.

On *Paspalum glabrum* Poir, *P. conjugatum* Berg., Porto Rico:—endemic.

34. **Phyllachora Renealmiae** Rehm, Hedwigia **36:** 383. 1897.

On *Alpinia antillarum* R. & S., Porto Rico:—continental South America.

35. **Phyllachora Roureae** Syd. Philippine Jour. Sci. **8**: 277. 1913.

On *Rourea surinamensis* Miq. [*Rourea glabra* Griseb. Not H. B. K.], Porto Rico:—Philippines.

36. **Phyllachora Scleriae** Rehm, Hedwigia **39**: 232. 1900.

On *Scleria pterota* Presl., Porto Rico:—continental South America.

37. **Phyllachora Securidacae** P. Henn. Hedwigia **43**: 251, 1904.

On *Elsota virgata* (Sw.) Kuntze, Porto Rico:—continental South America.

38. **Phyllachora serjaniicola** Chardon, Mycologia **13**: 293. 1921.

On *Serjania polyphylla* (L.) Radlk., Porto Rico.—endemic.

39. **Phyllachora simplex** Starb. Arkiv. Bot. 5^{15}: 14. 1905.

On *Coccolobis laurifolia* Jacq., Mona Island:—continental South America.

40. **Phyllachora smilacicola** Chardon, sp. nov.

Stromata amphigenous, black, globose or slightly angular, 2–3 mm. in diameter, plurilocular, occupying the mesophyll of the leaf; loculi ovate or somewhat flattened, 400–500 × 200–250 μ in diameter; asci elliptical clavate, 75–90 × 15–18 μ, 8-spored; spores uniseriate above, biseriate in the main body of the ascus, somewhat fusiform or irregularly fusoid, provided with a small appendage at each end, hyalina, the mature spores 16.5–20 × 6.5–8 μ; paraphyses present.

Arthur, in Mycologia **9**: 77, records a rust under this number (W. & O. *348*) as *Puccinia Smilacis* Schw. Our specimen is a part of this collection, being the leaves showing the *Phyllachora* and now separated out as *348b*.

On *Smilax domingensis* Willd. Whetzel & Olive *348b*. Maricao, Mar. 16, 1916.

41. **Phyllachora sphaerosperma** Winter, Hedwigia **23**: 170. 1884.

On *Cenchrus echinatus* L., Porto Rico; *C. myosurioides* (Sw.) Nash, Mona Island:—continental South America.

42. **Phyllachora Taruma** Speg. Anal. Soc. Ci. Argent. **19**: 94. 1886.

On *Vitex divaricata* Sw., Porto Rico:—continental South America.

43. **Phyllachora Tragiae** (Berk. & Curt.) Sacc. Syll. Fung. **2**: 601. 1883.

Dothidea Tragiae Schw.; Berk. & Curt. Jour. Acad. Nat. Sci. II. **2**: 288. 1853.

On *Croton lucidus* L., Porto Rico:—continental South America.

44. **Phyllachora viequesensis** Orton & Toro, sp. nov.

Stromata amphigenous, black, not shining, scattered, rarely confluent, irregular or occasionally circular, 0.5–1 mm. wide, 0.5–2 mm. long, mostly uniloculate, sometimes 2-loculate; locules globose or irregular, 160–220 μ long, 180–200 μ wide; clypeus mostly epiphyllous, 60–80 μ diam.; asci cylindrical, 8-spored, 110–112 × 10–12 μ, with a pedicel 10 μ long; spores obliquely uniseriate, fusiform or subfusiform, 16–20 × 6–8 μ, continuous, hyaline; paraphyses filiform.

On *Cyperus ligularis* L. Cornell University Explorations of Porto Rico (Whetzel, Kern & Toro, *2648* type). Vieques, July 17, 1925.

This fungus is unique for several reasons. The stromata are formed in the upper portions of the big air cavities of the host leaves. From the base of each stroma a compact weft of brown mycelial hyphae arise and penetrate the host

cells below the cavities. In this respect it resembles *Phyllachora Thwaitesii* (Berk.) Sacc. The generic position of the fungus is also questionable. Possessing mostly uniloculate stromata it is difficult to decide whether we are dealing with a Dothideaceous or a Sphaeriaceous fungus. However, since most of the Phyllachoras on grasses are of this type the fungus is placed in this genus for the present. It also suggests *Puiggarina* Speg. a genus which has been established for uniloculate species of *Phyllachora* devoid of paraphyses. Our species, however, has paraphyses and it will necessitate the establishment of a new genus.

45. **Phyllachora Whetzelii** Chardon, Mycologia **13**: 293. 1921.

On *Eugenia* sp., Porto Rico:—endemic.

46. **Phyllachora Zanthoxyli** Winter; Rab.-Wint. Fungi Eur. *3558*. 1886.

On *Zanthoxylum martinicense* (Lam.) DC., Porto Rico:—continental South America.

8. **PHAEODOTHIOPSIS** Theiss. & Syd. Ann. Myc. **13**: 410. 1915.

1. **Phaeodothiopsis Eupatorii** Stevens, Bot. Gaz. **69**: 252. 1920.

On *Critonia portoricensis* (Urban) Britton & P. Wilson [*Eupatorium portoricense* Urban], Porto Rico:—endemic.

9. **SCIRRHIA** Nitschke; Fuckel, Symb. Myc. 220. 1869.

1. **Scirrhia lophodermioides** Ellis & Ev. Bull. Torrey Club **22**: 435. 1895.

On *Saccharum officinarum* L., Porto Rico:—Sandwich Island.

10. **TRABUTIA** Sacc. & Roum. Rev. Myc. **3**: 27. 1881.

1. **Trabutia Bucidae** Chardon, Mycologia **13**: 290. 1921.

On *Bucida Buceras* L., Porto Rico:—endemic.
Known only from a single collection near Coamo.

2. **Trabutia conica** Chardon, Mycologia **13**: 292. 1921.

On *Drepanocarpus lunatus* (L. f.) Mey., Porto Rico; Vieques:—endemic.

3. **Trabutia Guazumae** Chardon, Mycologia **13**: 291. 1921.

? *Phyllachora Guazumae* P. Henn. Hedwigia **48**: 7. 1909.

On *Guazuma Guazuma* (L.) Cockerell [*Guazuma ulmifolia* Lam.], Porto Rico: —Cuba.

4. **Trabutia Randiae** (Rehm) Theiss. & Syd. Ann. Myc. **13**: 351. 1915.

Phyllachora Randiae Rehm, Hedwigia **36**: 371. 1897.

On *Randia* sp., St. Jan; Porto Rico:—continental South America.

5. **Trabutia Zanthoxylii** Chardon, sp. nov.

Spots irregular or roughly circular, appearing as discolored patches on both surfaces of the leaf; stromata numerous, black, not shining, epiphyllous, circular at first, later confluent and fusing into a large, irregular stroma, subcuticular; locules single, 250–400 × 100–150 μ; asci oblong-cylindrical, 8-spored, 80–100 × 15–22 μ; spores uniseriate or partially biseriate, ellipsoidal, continuous, hyaline, 12–14 × 6–7 μ; paraphyses present.

This species is characterized by the possession of a very irregular, confluent, black stroma on the upper surface of the leaves. It is a true *Trabutia* since its stroma is located between the cuticle and the epidermis.

On *Zanthoxylum martinicense* (Lam.) DC. Cornell University Explorations of Porto Rico (Whetzel & Olive *649*, Apr. 19, 1916 type). Porto Rico:—endemic.

11. **TRABUTIELLA** Theiss. & Syd. Ann. Myc. **12**: 180. 1914. Not Stevens, Bot. Gaz. **70**: 401. 1920.

1. **Trabutiella Ichnanthi** (Speg.) comb. nov.

Puiggarina Ichnanthi Speg. Bot. Acad. Ci. Cordoba **26**: 356. 1923.

On *Ichnanthus pallens* (Sw.) Munro, Porto Rico:—endemic.

Order 10. FIMETARIALES.

Perithecia overtopped with a dense mass of hairs; asci and paraphyses evanescent. Fam. 1. CHAETOMIACEAE.

Perithecia not overtopped with hairs; asci and paraphyses persistent but delicate. Fam. 2. FIMETARIACEAE.

Family 1. CHAETOMIACEAE.

1. **CHAETOMIUM** Kunze & Schm. Myk. Hefte **1**: 15. 1817.

1. **Chaetomium globosum** Kunze & Schm. Myk. Hefte **1**: 15. 1817.

On filter paper, Porto Rico:—widely distributed.

Family 2. FIMETARIACEAE.

1. **SPORORMIA** De-Not. Mem. Acad. Torino II. **10**: 342. 1849.

1. **Sporormia minima** Auersw. Hedwigia **7**: 66. 1868.

On cow dung, Porto Rico:—continental America; Europe.

2. **Sporormia intermedia** Auersw. Hedwigia **7**: 67. 1868.

On donkey dung, St. Thomas:—continental America; Europe.

2. **FIMETARIA** Griff. & Seaver, N. Am. Fl. **3**: 65. 1910.

1. **Fimetaria fimicola** (Rob.) Griff. & Seaver, N. Am. Fl. **3**: 66. 1910.

Sordaria fimicola Ces. & De-Not. Comm. Critt. Ital. **1**: 266. 1863.

On guinea pig dung, Porto Rico:—continental North America; Europe.

2. **Fimetaria humana** (Fuckel) Griff. & Seaver, N. Am. Fl. **3**: 67. 1910.

Sphaeria humana Fuckel, Fungi Rhen. *1801*. 1866.

On human dung, Porto Rico:—continental North America; Europe.

3. **PLEURAGE** Fries, Summa Veg. Scand. *418*. 1849.

1. **Pleurage arachnoidea** (Niessl) D. Griff. Mem. Torrey Club **11**: 73. 1901.

Podospora arachnoidea Niessl; Krieger, Fungi Sax. *371*. 1888.

On cow dung, Porto Rico:—continental North America; Europe.

Order 11. SPHAERIALES.

Stroma wanting; perithecia free or immersed in the substratum.		
Perithecia free or nearly so.		
Superficial or nearly so, the bases occasionally slightly imbedded.	Fam. 1.	SPHAERIACEAE.
Partially immersed in the substratum.	Fam. 2.	AMPHISPHAERIACEAE.
Perithecia entirely immersed in the substratum, with only the necks protruding.		
Asci thickened at apex; necks of perithecia beak-like.		
Without clypeus.	Fam. 3.	GNOMONIACEAE.
With clypeus.	Fam. 4.	CLYPEOSPHAERIACEAE.
Asci not thickened at apex; necks of perithecia short.		
Paraphyses absent; asci united in fascicles.	Fam. 5.	MYCOSPHAERELLACEAE.
Paraphyses present; asci free.	Fam. 6.	PLEOSPORACEAE.
Stroma present.		
Perithecia superficial on stroma.	Fam. 7.	CUCURBITARIACEAE.
Perithecia immersed in the stroma.		
Stroma immersed in the host tissues.		
Conidia in cavities in the stroma.	Fam. 8.	VALSACEAE.
Conidia formed in layers.	Fam. 9.	MELANCONIDACEAE.
Stroma erumpent or entirely superficial.		
Ascospores simple or septate.		
Usually allantoid.	Fam. 10.	DIATRYPACEAE.
Not usually allantoid.		
Conidia in cavities.	Fam. 11.	MELOGRAMMATACEAE.
Conidia in layers on surface of stroma.	Fam. 12.	XYLARIACEAE.

Family 1. SPHAERIACEAE.

1. BERTIA De-Not. Giorn. Bot. Ital. 1: 335. 1844.

1. **Bertia moriformis** (Tode) De-Not. Giorn. Bot. Ital. **1**: 335. 1844.

This is based on a single collection made by Heller which I have examined microscopically. It is not *Bertia moriformis* but *Thaxteria leptosporioides.*

2. HERPOTRICHIA Fuckel, Symb. Myc. 146. 1869.

1. **Herpotrichia albidostoma** (Peck) Sacc. Syll. Fung. **9**: 857. 1891.

Sphaeria albidostoma Peck, Ann. Rep. N. Y. State Mus. **32**: 51. 1891.

On rotten wood and branches and coconut shells, Porto Rico:—Trinidad; continental North America.

Specimens reported under the name of *Herpotrichia diffusa* (Schw.) Ellis & Ev. belong here. The two species closely resemble each other in general appearance but differ in spore characters.

3. HYPOSPILA Fries, Summa Veg. Scand. 421. 1869.

1. **Hypospila cordiana** Ellis & Kelsey, Bull. Torrey Club **24**: 208. 1897.

On *Cordia glabra* L., St. Croix:—endemic.

4. **LASIOSPHAERIA** Ces. & De-Not. Comm. Critt. Ital. **1**: 229. 1863.

1. **Lasiosphaeria pezizula** (Berk. & Curt.) Sacc. Syll. Fung. **2**: 195. 1883.
Sphaeria pezizula Berk. & Curt. Grevillea **4**: 106. 1875.
On dead wood and bark, Porto Rico:—Bermuda; continental North America.

5. **LIZONIA** Ces. & De-Not. Comm. Critt. Ital. **1**: 229. 1863.

1. **Lizonia Jacquiniae** Bri. & Har. Rev. Myc. **13**: 16. 1891.
Reported on *Jacquinia Barbasco* (Loefl.) Mez., Porto Rico:—Jamaica.

6. **MELANOMMA** Nitschke; Fuckel, Symb. Myc. 159. 1869.

1. **Melanomma nitidulum** Bres. Bot. Jahr. **17**: 500. 1893.
Reported from the Sintenis collection, Porto Rico:—endemic.

7. **PHAEOSPORA** Zopf. Nova Acta Leop.-Carol. **70**: 280. 1898.

1. **Phaeospora cacticola** Stevens, Trans. Ill. Acad. Sci. **10**: 177. 1917.
On *Rhipsalis Cassutha* Gaertn., Porto Rico:—endemic.

8. **ROSELLINIA** De-Not. Atti Sci. Ital. **6**: 485. 1845.

1. **Rosellinia aquila** (Fries) De-Not. loc. cit.
Sphaeria aquila Fries, Syst. Myc. **2**: 442. 1822.
On dead wood, Porto Rico:—continental America; Europe; Asia.

2. **Rosellinia bunodes** (Berk. & Br.) Sacc. Syll. Fung. **1**: 254. 1882.
Sphaeria bunodes Berk. & Br. Jour. Linn. Soc. **14**: 125. 1875.
On dead wood of coffee and other hosts, Porto Rico:—Ceylon.

3. **Rosellinia metachroa** Ferd. & Winge, Bot. Tidssk. **29**: 16. 1908.
On bark, St. Croix; St. Jan:—endemic.

5. **Rosellinia mutans** (Cooke & Peck) Sacc. Syll. Fung. **1**: 259. 1882.
Sphaeria mutans Cooke & Peck; Peck, Ann. Rep. N. Y. State Mus. **26**: 87. 1874.
On dead wood, Porto Rico:—continental America; Europe; Asia.

6. **Rosellinia paraguayensis** Starb. Arkiv. Bot. 2^5: 15. 1904.
On dead sugar stalks, Porto Rico:—South America.

7. **Rosellinia pulveracea** (Ehr.) Fuckel, Symb. Myc. 149. 1869.
Sphaeria pulveracea Ehr.; Pers. Syn. Fung. 83. 1801.
On dead sugar cane stalks, Porto Rico:—continental America; Europe.

8. **Rosellinia subiculata** (Schw.) Sacc. Syll. Fung. **1**: 255. 1882.
Sphaeria subiculata Schw. Schr. Nat. Ges. Leipzig **1**: 44. 1822.
On dead wood, Porto Rico; St. Croix; St. Jan:—continental North America.

9. **Rosellinia St. Cruciana** Ferd. & Winge, Bot. Tidssk. **29**: 16. 1908.
On petioles of *Cocos nucifera* L., St. Jan; St. Croix:—endemic.

9. **TRICHOSPHAERIA** Fuckel, Symb. Myc. 144. 1869.

1. **Trichosphaeria acanthostroma** (Mont.) Sacc. Syll. Fung. **1**: 454. 1882.
Sphaeria acanthostroma Mont. Syll. Crypt. 226. 1856.
On bark, Porto Rico:—continental America.

10. **ZIGNOELLA** Sacc. Michelia **1**: 346. 1878.

1. **Zignoella algaphila** Stevens, Bot. Gaz. **69**: 256. 1920.

On *Cephaleuros virescens* Kunze on *Artocarpus communis* Forst., Porto Rico:—endemic.

2. **Zignoella Magnolieae** Tracy & Earle, Bull. Torrey Club **23**: 211. 1896.

On dead bark, Porto Rico:—continental North America.

Family 2. **AMPHISPHAERIACEAE.**

1. **AMPHISPHAERIA** Ces. & De-Not. Comm. Critt. Ital. **1**: 225. 1863.

1. **Amphisphaeria portoricensis** Petrak, Ann. Myc. **22**: 20. 1924.

On small twigs, Porto Rico:—endemic.

Family 3. **GNOMONIACEAE.**

1. **GLOMERELLA** Schr. & Spald. Science II. **17**: 751. 1903.

Gnomoniopsis Stonem. Bot. Gaz. **26**: 114. 1898.

1. **Glomerella piperata** (Ellis & Ev.) Spald. & Schr. Science II. **17**: 751. 1903.
Gloesporium piperatum Ellis & Ev. Halsted, N. J. Agr. Exp. Sta. Rep. **2**: 358. 1890.

On *Capsicum annuum* L., *C. frutescens* L., Porto Rico:—continental North America.

2. **Glomerella rufomaculans** (Berk.) Spald. & Schr. Science II. **17**: 751. 1903.
Septoria rufomaculans Berk. Gard. Chronicle **1854**: 676.
Gloesporium rufomaculans Thüm. Fungi Pomicoli 59. 1879.
Gloesporium Vanillae Cooke, Grevillea **15**: 18. 1886.
Gloesporium cingulatum Atk. Cornell Univ. Agr. Exp. Sta. Bull. **49**: 314. 1892.
Gloesporium Psidii G. Del. Bull. Soc. Myc. Fr. **19**: 143. 1903.

On *Psidium Guajava* L., [*Vanilla Vanilla* (L.) Britton *Vanilla planifolia* Andr.]; also on dead twigs of *Citrus* sp., Porto Rico:—continental North America.

Family 4. **CLYPEOSPHAERIACEAE.**

1. **ANTHOSTOMELLA** Sacc. Atti Soc. Veneto-Trent. **4**: 85. 1875.

1. **Anthostomella Cecropiae** (Rehm) Höhn. Sitz.-ber. Akad. Wien. **118**: 1510. 1909.
Physalospora Cecropiae Rehm, Hedwigia **40**: 112. 1901.
Auerswaldia Cecropiae P. Henn. Hedwigia **43**: 253. 1904.

On *Cecropia peltata* L., Porto Rico:—continental South America.

The genus *Trabutia* Sacc. & Roum. has been transferred to the Dothideales by Theissen and Sydow because its type species *T. quercina* has a distinctly dothideaceous stroma, no cell wall being present. So far as the writers are aware all the known species of the genus belong in the Dothideales. The new genus *Clypeotrabutia* is proposed here to take care of the 1-celled, hyaline-spored forms of the Clypeosphaeriaceae. A cross section of the type species of this genus, *Trabutia portoricensis* shows the presence of a true perithecial wall bordering the perithecia and shows also a distinct clypeus bordering the region of the ostiolum.

2. **Anthostomella Rhizomorphae** (Kunze) Berl. & Vogl. in Sacc. Syll. Fung. **9:** 508. 1891.

Sphaeria Rhizomorphae Kunze; Curr. Trans. Linn. Soc. **22:** 332. 1859.

On *Rhizophora Mangle* L., Porto Rico:—endemic.

2. **CLYPEOTRABUTIA** gen. nov.

Perithecia globose, provided with true perithecial walls, immersed in the tissues of the host, with the necks slightly protruding; clypeus evident, black, bordering the upper portion of the perithecium around the region of the ostiolum; asci cylindrical or cylindrical-clavate, 8-spored; spores 1-celled, hyaline; paraphyses present. Type species, *Trabutia portoricensis* Stevens.

1. **Clypeotrabutia portoricensis** (Stevens) comb. nov.

Trabutia portoricensis Stevens, Bot. Gaz. **70:** 401. 1920.

"Spots approximately circular, densely set with perithecia, area of young spot not at all or but slightly discolored, tissue of old spots dead, tan-colored. Perithecia conspicuous above, due to the shining, black clypeus, from below by the protuberance which they cause. Perithecial opening epiphyllous, clypeus black, 80–95 μ in diameter. Ostiole central, 10–15 μ in diameter. Perithecium central in the mesophyll. Asci irregular, thin-walled, 8-spored, inordinate, 68 $\times$ 17 μ. Paraphyses many; spores filiform, oblong, obtuse, 24 $\times$ 7 μ, continuous hyaline."

On *Coccolobis venosa* L. [*C. nivea* Jacq.], Herbarium University of Illinois, Porto Rican fungi (Stevens) No. *3907* a, Mayaguez, Oct. 31, 1913 (*type*), a portion of which is deposited in Chardon's herbarium as No. *1509;* id. id. (Stevens) No. *3907*, Mayaguez, Apr. 30, 1913, a portion of which is deposited in Chardon's herbarium as No. *1486;* Cornell University Explorations of Porto Rico (Whetzel & Olive) No. *624*, Coamo, Apr. 24, 1916; id. id. (Chardon) Nos. *917* & *920*, Penuelas, July 19 & 24, 1920, respectively, Porto Rico:—endemic.

3. **LINOSPORA** Fuckel, Symb. Myc. 123. 1869.

1. **Linospora Trichostigmae** Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2:** 157. 1918, (hyponym); Bot. Gaz. **70:** 399. 1920.

On *Trichostigma octandrum* (L.) H. Walt., Porto Rico:—endemic.

Family 5. **MYCOSPHAERELLACEAE.**

1. **GUIGNARDIA** Viala & Ravaz, Bull. Soc. Myc. Fr. **8:** 63. 1892.

1. **Guignardia Cephalariae** var. **Alternantherae** (Sacc.) Stevenson, Jour. Dept. Agr. Porto Rico **2:** 155. 1918.

Laestadia Cephalariae var. *Alternantherae* Sacc. Bol. Soc. Brot. **11:** 68. 1893.

On *Achyranthes sessilis* (L.) Steud. [*Alternanthera sessilis* R. Br.], Porto Rico:—Europe.

2. **Guignardia Clusiae** Stevens, Trans. Ill. Acad. Sci. **10:** 183. 1917.

On *Clusia Gundlachii* Stahl, Porto Rico:—endemic.

3. **Guignardia Helicteres** Stevens, Trans. Ill. Acad. Sci. **10:** 183. 1917.

On *Helicteres jamaicensis* Jacq., Porto Rico:—endemic.

4. **Guignardia Heterotrichi** Stevens, Trans. Ill. Acad. Sci. **10:** 182. 1917.

On *Heterotrichum cymosum* (Wendl.) Urban, Porto Rico:—endemic.

5. **Guignardia Justiciae** Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2:** 155. 1918.

On *Stethoma verticillaris* (Nees) Britton [*Justicia verticillaris* (Nees) Urban], Porto Rico:—endemic.

6. **Guignardia Nectandrae** Stevens, Bot. Gaz. **69:** 255. 1920.

On *Nectandra coriacea* (Sw.) Griseb., Porto Rico:—endemic.

7. **Guignardia pipericola** Stevens, Trans. Ill. Acad. Sci. **10:** 183. 1917.

On *Piper marginatum* Jacq. and *Piper medium* Jacq., Porto Rico:—endemic.

8. **Guignardia prominens** Earle, Muhlenbergia **1:** 15. 1901.

On *Aegiphila martinicensis* Jacq., Porto Rico:—endemic.

9. **Guignardia Rhynchosporae** Stevens, Trans. Ill. Acad. Sci. **10:** 184. 1917.

On *Rynchospora cyperoides* (Sw.) Mart., Porto Rico:—endemic.

10. **Guignardia Tetrazygia** Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2:** 155. 1917.

On *Tetrazygia elaeagnoides* (Sw.) DC., Porto Rico:—endemic.

2. **MYCOSPHAERELLA** Johans. Ofr. Vet.-Akad. Förh. 1884: 163.

1. **Mycosphaerella aggregata** Earle, sp. nov.

Perithecia gregarious, often 2 or 3 or more confluent in a substromatic mass, membranaceous, small, 60–75 μ in diameter; ostiola perforate, large, 14 μ in diameter; asci oval to obovate, 40 $\times$ 15 μ; spores distichous or inordinate, oblong, the ends obtuse, equally 1-septate, not constricted, hyaline, 12–14 $\times$ 3–4 μ.

On indistinct spots on dead leaf tips of *Hymenocallis* near Santurce, Jan. 10, 1899, Heller *70* a, Porto Rico:—endemic.

2. **Mycosphaerella Anthurii** Miles, Trans. Ill. Acad. Sci. **10:** 252. 1917.

On *Anthurium acaule* (Jacq.) Schott, Porto Rico:—endemic.

3. **Mycosphaerella Chrysobalani** Miles, Trans. Ill. Acad. Sci. **10:** 252. 1917.

On *Chrysobalanus Icaco* L., Porto Rico:—endemic.

4. **Mycosphaerella citrullina** (Chester) Grossenb. Tech. Bull. N. Y. Agr. Exp. Station **9:** 226. 1909.

Phyllosticta citrullina Chester, Bull. Torrey Club **18:** 374. 1891.

On *Cucumis Melo* L., Porto Rico:—continental North America.

5. **Mycosphaerella Clusiae** Stevens, Trans. Ill. Acad. Sci. **10:** 181. 1917.

On *Clusia rosea* Jacq., Porto Rico:—endemic.

6. **Mycosphaerella Didymopanacis** Miles, Trans. Ill. Acad. Sci. **10:** 249. 1917.

On *Didymopanax Morototoni* (Aubl.) Dcne. & Pl., Porto Rico:—endemic.

7. **Mycosphaerella dubia** Miles, Trans. Ill. Acad. Sci. **10:** 250. 1917.

On *Solanum* sp., Porto Rico:—endemic.

8. **Mycosphaerella Fragariae** (Tul.) Lindau, E. & P. Nat. Pfl. 1^1: 424. 1897.

Sphaeria Fragariae Tul. Ann. Sci. Nat. IV. **5**: 112. 1856.

On *Fragaria* sp., Porto Rico:—continental North America.

9. **Mycosphaerella Guttiferae** Miles, Trans. Ill. Acad. Sci. **10**: 250. 1917.

On *Clusia Gundlachii* Stahl, Porto Rico:—endemic.

10. **Mycosphaerella maculiformis** (Pers.) Schröt. Krypt.-Fl. Schles. 3^2: 333. 1908.

Sphaeria maculiformis Pers. Syn. Fung. 90. 1801.

On *Inga Inga* (L.) Britton, Porto Rico:—continental North America.

11. **Mycosphaerella maxima** Miles, Trans. Ill. Acad. Sci. **10**: 251. 1917.

On unknown host, Porto Rico:—endemic.

12. **Mycosphaerella Maydis** (Passer.) Lindau in E. & P. Nat. Pfl. 1^1: 424. 1897.

Sphaerella Maydis Passer.; Rab. Fungi Eu. *1851*. 1874.

On *Syntherisma sanguinalis* (L.) Dulac., Porto Rico:—Europe.

13. **Mycosphaerella Mucunae** Stevens, Trans. Ill. Acad. Sci. **10**: 182. 1917.

On *Stizolobium pruritum* (Wight) Piper, Porto Rico:—endemic.

14. **Mycosphaerella Palmae** Miles, Trans. Ill. Acad. Sci. **10**: 252. 1917.

On leaves of palms, Porto Rico:—endemic.

15. **Mycosphaerella Perseae** Miles, Trans. Ill. Acad. Sci. **10**: 251. 1917.

On *Persea Persea* (L.) Cockerell, Porto Rico:—endemic.

16. **Mycosphaerella Sacchari** (Speg.) comb. nov.

Sphaerella Sacchari Speg. Rev. Agr. Univ. La Plata **1896**: 30.

On dead leaves of *Saccharum officinarum* L., Porto Rico:—South America.

17. **Mycosphaerella subastoma** Stevens & Dalbey, Mycologia **11**: 8. 1919.

On *Anemia adiantifolia* (L.) Sw., Porto Rico:—endemic.

18. **Mycosphaerella Tabebuiae** Miles, Trans. Ill. Acad. Sci. **10**: 249. 1917.

On *Tabebuia haemantha* (Bert.) DC., Porto Rico:—endemic.

19. **Mycosphaerella tetraspora** Seaver, sp. nov.

Spots numerous, subcircular in outline, light colored in the center with a dark brown border, reaching a diameter of 1 mm.; perithecia few to each spot and usually located near the center of the infected area; asci clavate 40–45 × 8 μ, 4-spored (so far as observed); spores fusoid, 1-septate, hyaline 12–14 × 3–4 μ.

On living leaves of *Commelina elegans* H. B. K.

Type collected at Mayaguez, February, 1923. No. *413*. All spots do not show perithecia and it is not easy to get asci and spores. After some persistence, however, several mounts were made. Only four spores could be detected in the asci examined. Some ascomycetes which normally produce eight will sometimes show only four mature ones. So some allowance should be made in case the number should be found to vary.

20. **Mycosphaerella tirolensis** (Auersw.) Magn. Pilze Tirol 463. 1905.
Sphaerella tirolensis Auersw. Syn. Pyrenom. Eu. 20. 1869.
On *Pityrogramma sulphurea* (Sw.) Maxon [*Gymnogramma sulphurea* (Sw.) Desv.], Porto Rico:—Europe.

3. **PHAEOSPHAERELLA** Karst. Medd. Soc. Fauna Fl. Fenn. **16:** 28. 1888.

1. **Phaeosphaerella Paspali** Tehon, Bot. Gaz. **67:** 508. 1919.
On *Paspalum glabrum* Poir., Porto Rico:—endemic.

4. **STIGMATEA** Fries, Summa Veg. Scand. 421. 1849.

1. **Stigmatea Piperis** Rehm, Hedwigia **40:** 105. 1901.
On leaves of *Piper Amalago* L., St. Jan:—South America.

2. **Stigmatea Guettardae** Tehon, Bot. Gaz. **67:** 508. 1919.
On *Guettarda ovalifolia* Urban, Porto Rico:—endemic.

Family 6. **PLEOSPORACEAE.**

1. **LEPTOSPHAERIA** Ces. & De-Not. Comm. Critt. Ital. **1:** 234. 1863.

1. **Leptosphaeria Sacchari** van Breda de Haan, Meded. Proefst. Suik. West-Java **1892:** 25.
On *Saccharum officinarum* L., Porto Rico:—Java.
Leptosphaeria saccharicola P. Henn. has also been doubtfully reported on the same host.

2. **METASPHAERIA** Sacc. Syll. Fung. **2:** 156. 1883.

1. **Metasphaeria abortiva** Stevens, Trans. Ill. Acad. Sci. **10:** 186. 1917.
On *Calyptracordia alba* (Jacq.) Britton [*Varronia alba* Jacq.], Porto Rico:—endemic.

3. **OPHIOBOLUS** Riess, Hedwigia **1:** 27. 1854.

1. **Ophiobolus barbatus** Pat. & Gaill. Bull. Soc. Myc. Fr. **4:** 114. 1888.
On *Vitex* sp., Porto Rico:—continental South America.

4. **PHYSALOSPORA** Niessl, Verh. Nat. Ver. Brünn **14:** 10. 1876.

1. **Physalospora Andirae** Stevens, Trans. Ill. Acad. Sci. **10:** 184. 1917.
On *Andira inermis* H. B. K., Porto Rico:—endemic.

2. **Physalospora Bambusae** (Rab.) Sacc. Syll. Fung. **1:** 446. 1882.
Sphaeria Bambusae Rab. Hedwigia **17:** 45. 1878.
On *Lasiacis sorghoidea* (Desv.) H. & C., Porto Rico:—India.

3. **Physalospora carophyllinicola** Stevens, Trans. Ill. Acad. Sci. **10:** 184. 1917.
On *Drymaria cordata* (L.) Willd., Porto Rico:—endemic.

4. **Physalospora Ecastophylli** (Lév.) Sacc. Syll. Fung. **1:** 446. 1882.
Sphaeria Ecastophylli Lév. Ann. Sci. Nat. III. **3:** 54. 1845.
On *Ecastophyllum Ecastophyllum* (L.) Britton [*Pterocarpus Ecastophyllum* L.], Porto Rico:—endemic.

5. **Physalospora Hoyae** Höhn. Sitz.-ber. Akad. Wien. **114:** 122. 1907.

On *Ficus* sp., Mona Island:—Samoa Islands.

6. **Physalospora Laguncularíae** Rehm, Hedwigia **40:** 113. 1901.

On *Laguncularia racemosa* (L.) Gaertn., Porto Rico:—South America.

7. **Physalospora tucumanensis** Speg. Rev. Agr. Univ. La Plata **1896:** 228.

On dead sugar cane stalks, *Saccharum officinarum* L., Porto Rico:—South America.

Family 7. CUCURBITARIACEAE.

1. OTTHIA Nitschke; Fuckel, Symb. Myc. Nachtr. **1:** 19. 1871.

1. **Otthia Panici** Stevens, Trans. Ill. Acad. Sci. **10:** 185. 1917.

On *Panicum maximum* Jacq., Porto Rico:—endemic.

2. ROSTRONITSCHKIA Fitzp. Mycologia **11:** 165. 1919.

1. **Rostronitschkia nervincola** Fitzp. Mycologia **11:** 166. 1919.

Nitschkia nervicola Rehm (in litt.).

On *Pentarhaphia albiflora* Dcne., Porto Rico:—Jamaica.

3. THAXTERIA Sacc. Syll. Fung. **9:** 687. 1891.

1. **Thaxteria leptosporioides** (Winter) Fitzp. Mycologia **15:** 60. 1923.

Coloesphaeria leptosporioides Winter, Hedwigia **22:** 2. 1883.
Nitschkia rugulosa (Rick) Höhn. Sitz.-ber. Akad. Wien **123:** 58, 59. 1914.
Leptosporella leptosporioides Höhn. Ann. Myc. **16:** 105. 1918.

This fungus has been reported by Stevenson as *Bertia moriformis* (Tode) De-Not.

On dead wood, Porto Rico:—continental America, Europe.

Family 8. VALSACEAE.

1. VALSA Fries, Summa Veg. Scand. 410. 1849.

1. **Valsa chlorina** Pat. Bull. Soc. Myc. Fr. **22:** 56. 1906.

Eutypella Cocos Ferd. & Winge, Vidensk. Meddel. **1908:** 141.
Scoptria chlorina Petrak, Ann. Myc. **22:** 79. 1924.

On husks of *Cocos nucifera* L., Porto Rico; St. Croix:—French Polynesia.

2. **Valsa Sacchari** Stevenson, Jour. Dept. Agr. Porto Rico **2:** 157. 1918.

On dead sugar cane stalks, *Saccharum officinarum* L., Porto Rico:—endemic.

2. EUTYPA Tul. Fung. Carp. **2:** 52. 1863.

1. **Eutypa aurantiicola** Speg. Anal. Soc. Ci. Argent. **26:** 26. 1888.

On stumps of wood, St. Jan; St. Thomas:—Europe.

2. **Eutypa flavovirescens** var. **multiceps** (Sow.) Sacc. Syll. Fung. **1:** 173. 1882.

Sphaeria multiceps Sow. Engl. Fungi. *pl. 394.* 1803.

On stumps of wood, St. Jan:—Europe.

Family 9. **MELANCONIDACEAE.**

1. **MELANCONIS** Tul. Fung. Carp. **2:** 115. 1863.

1. **Melanconis Sacchari** Massee; Speg. Rev. Agr. Univ. La Plata **1895:** 242.

According to Stevenson, a mistake for *Melanconium Sacchari* Mass. See Melanconiaceae.

2. **VALSARIA** Ces. & De-Not. Comm. Critt. Ital. **1:** 205. 1863.

1. **Valsaria subtropica** Speg. Anal. Mus. Nac. Buenos Aires III. **12:** 372. 1909.

On dead sugar cane stalks, *Saccharum officinarum* L., Porto Rico:—South America.

Family 10. **DIATRYPACEAE.**

1. **DIATRYPE** Fries, Summa Veg. Scand. 384. 1849.

1. ?**Diatrype Stigma** (Hoffm.) Fries, Summa Veg. Scand. 385. 1849.

On dead wood, Porto Rico:—Bahamas; continental America; Europe; Siberia.

The specimen is rather poor so that the determination is somewhat doubtful.

Family 11. **MELOGRAMMATACEAE.**

1. **BOTRYOSPHAERIA** Ces. & De-Not. Comm. Critt. Ital. **1:** 211. 1863.

1. **Botryosphaeria xanthocephala** (Syd. & Butler) Theiss. & Syd. Ann. Myc. **14:** 26. 1916.

Physalospora xanthocephala Syd. & Butler, Ann. Myc. **9:** 408. 1911.

On *Cajan Cajan* (L.) Millsp., Porto Rico:—India.

2. **ENDOTHIA** Fries, Summa Veg. Scand. 385. 1849.

1. **Endothia longirostris** Earle, Muhlenbergia **1:** 14. 1901.

On dead bark, Porto Rico:—Trinidad.

3. **MYRMAECIUM** Nitschke; Fuckel, Symb. Myc. 227. 1849.

1. ?**Myrmaecium Cannae** Dearn. & Barth.; Dearn. Mycologia **9:** 347. 1917.

On *Canna indica* L., Porto Rico:—endemic.

2. **Myrmaecium rubricosum** (Tul.) Fuckel, Symb. Myc. 227. 1869.

Melogramma rubricosum Tul. Fung. Carp. **2:** 84. 1863.

On dead bark, Porto Rico:—Europe.

Family 12. **XYLARIACEAE.**

1. **DALDINIA** Ces. & De-Not. Comm. Critt. Ital. **1:** 197. 1863.

1. **Daldinia concentrica** (Bolt.) Ces. & De-Not. Comm. Critt. Ital. **1:** 198. 1863.

Sphaeria concentrica Bolt. Fungi Halifax **3:** 180. 1789.

On dead wood, Porto Rico:—Cuba; Bahamas; continental America; Europe; Asia; Borneo; Ceylon; Tasmania; New Zealand; Java.

Also reported from St. Croix, St. Jan. and St. Thomas under the name of *Daldinia Eschscholzii.*

2. **HYPOXYLON** Bull. Champ. Fr. **1**: 168. 1809.

1. **Hypoxylon annulatum** (Schw.) Mont. in Hist. Chil. **7**: 445. 1854.

Sphaeria annulata Schw. Jour. Acad. Sci. Phila. **5**: 11. 1825.

On dead wood, Porto Rico:—Bahamas; continental North America; New Zealand.

2. **Hypoxylon citrinum** Shear, sp. nov.

Stromata subpulvinate, very irregular in shape, erumpent, gregarious or scattered, occasionally confluent, with somewhat irregular surface but thin and fragile, gray at first on the outside becoming dark chestnut to black with age and bright lemon yellow to golden within; 1–3 mm. across, frequently only 2 or 3 perithecia in a stroma and occasionally with separate perithecia; perithecia depressed-globose, mostly embedded in the scanty stroma, about ½ mm. in diameter, with a thin, fragile wall; ostioles papillate, small, black; asci cylindrical, stipitate, 75–85 μ long; paraphyses not seen; ascospores overlapping-uniseriate, short elliptic to subglobose, continuous, smooth, dark brown, 10.5–12 × 7–8 μ.

Type, No. *378* Seaver & Chardon on dead corticate branches, Porto Rico, 1923, in Pathological Collections, U. S. Department of Agriculture and New York Botanical Garden.

The most striking character of this species is the bright light golden color of the inside of the stroma, which is usually noticeable in the specimens on account of their fragile character. The plant might have been referred to *Rosellinia* on account of the perithecia being occasionally separate, gregarious or only slightly united in stromata, but no description of it could be found under that genus.

3. **Hypoxylon fusco-purpureum** (Schw.) Berk. Jour. Linn. Soc. **10**: 385. 1868.

Sphaeria fusco-purpurea Schw. Jour. Acad. Sci. Phila. **5**: 16. 1825.

On dead citrous branches, Porto Rico:—Cuba; Bahamas; continental North America.

4. **Hypoxylon leucodermium** Shear, sp. nov.

Stromata subpulvinate, discoid or irregular in outline, superficial, appressed to the surface of the bark and attached at the center by a narrow base, gregarious or somewhat scattered, occasionally confluent, surface smooth or slightly roughened by the ostioles, carbonous without but soft within when fresh, whitened without when young with a thin, compact conidial layer which gradually disappears with age, apparently finally becoming black, white within, ¼–1 cm. in diameter, 2–3 mm. thick; perithecia black, globose to subglobose, entirely embedded in the stroma, ¾–1 mm. diameter; ostioles black, very slightly elevated, small; asci cylindrical, stipitate, p. sp. 180–200 × 13–15 μ; paraphyses doubtful. The asci appear to be embedded in a hyaline gelatinous layer lining the inner surface of the perithecia. Spores uniseriate or slightly overlapping, elliptical, inequilateral, smooth, continuous, dark brown, 23–30 × 10–11.5 μ.

Type, No. *632* Seaver & Chardon on decaying corticate branches, Porto Rico, 1923. In Pathological Collections, U. S. Department of Agriculture, and New York Botanical Garden.

The nearest relative of this species with which we are acquainted is *Hypoxylon Berterii* Mont., which we also have from Porto Rico and which is readily distinguished by the size of its ascospores, which are only 10–12 × 5–7.5 μ, according to the type specimen which we have examined. Both species are somewhat intermediate in character between *Hypoxylon* and *Xylaria* in having the substance of the stroma of the structure and color of *Xylaria* and being attached at the center of the base.

5. **Hypoxylon perforatum** (Schw.) Fries, Summa Veg. Scand. 384. 1849.

Sphaeria perforata Schw. Schr. Nat. Ges. Leipzig **1**: 5. 1822.

On dead bamboo, Porto Rico:—continental North America; India; Ceylon.

6. **Hypoxylon pseudopachyloma** Speg. Bol. Acad. Ci. Cordoba **11**: 205. 1888.
On dead branches, St. Croix; St. Jan; St. Thomas:—South America.

7. **Hypoxylon rubiginosum** (Pers.) Fries, Summa Veg. Scand. 384. 1849.
Sphaeria rubiginosa Pers. Syn. Fung. 11. 1801.
On dead wood, Porto Rico; St. Croix; St. Jan; St. Thomas:—Cuba; continental North America; Europe; Ceylon; Java; North Africa.

8. **Hypoxylon St. Janianum** Ferd. & Winge, Bot. Tidssk. **29**: 14. 1908.
On branches ?, St. Jan:—endemic.

3. **KRETZSCHMARIA** Fries, Summa Veg. Scand. 409. 1849.

1. **Kretzschmaria coenopus** (Fries) Sacc. Syll. Fung. **9**: 565. 1891.
Sphaeria coenopus Fries, Linnaea **5**: 542. 1830.
On dead wood, Porto Rico:—Cuba; Central and South America.

2. **Kretzschmaria rugosa** Earle, Bull. N. Y. Bot. Garden **3**: 311. 1905.
On dead wood, Porto Rico:—St. Kitts; Trinidad.
While described as a *Kretzschmaria* this species probably belongs rather with the genus *Xylaria* and may be identical with *Xylaria tuberiformis* Berk. as has been suggested.

3. **Kretzschmaria Tuckerii** Lloyd, Myc. Notes **7**: 1353. 1925 (hyponym).
On rotten wood, Porto Rico:—endemic.

4. **NUMMULARIA** Tul. Fung. Carp. **2**: 42. 1863.

1. **Nummularia Bulliardii** Tul. Fung. Carp. **2**: 43. 1863.
Occurring on dead wood or occasionally a wound parasite on *Ficus nitida* Thunb. and other trees, Porto Rico; St. Jan; St. Thomas:—Bahamas; North America; Europe.

2. **Nummularia cincta** Ferd. & Winge, Bot. Tidssk. **29**: 15. 1909.
On dead wood, Porto Rico; St. Jan:—Hispaniola.

3. **Nummularia dura** Ferd. & Winge, Bot. Tidssk. **29**: 15. 1908.
On bark, St. Croix; St. Jan:—endemic.

4. **Nummularia emergens** Lloyd, Myc. Notes **7**: 1353.
Erumpent through the bark of unnamed host, Porto Rico:—endemic.

5. **Nummularia Glycyrrhiza** (Berk. & Curt.) Sacc. Syll. Fung. **1**: 401. 1882.
Hypoxylon Glycyrrhiza Berk. & Curt. Jour. Acad. Nat. Sci. Phila. II. **2**: 285. 1853.
Reported from the Sintenis collection, Porto Rico:—Central and South America.

6. **Nummularia punctulata** (Berk. & Rav.) Sacc. Syll. Fung. **1**: 399. 1882.
Diatrype punctulata Berk. & Rav. Grevillea **4**: 94. 1876.
On dead wood, Porto Rico:—continental North America.

7. **Nummularia repanda** Nitschke, Pyrenom. Germ. 57. 1867.

Sphaeria repanda Fries, Obs. Myc. **1**: 168. 1815.

On dead wood, Porto Rico:—North and Central America; Europe.

5. **PORONIA** Gledits.; Willd. Fl. Berol. 400. 1787.

1. **Poronia Chardoniana** Toro, sp. nov.

Stipitate, mummy-brown, small; stipe 0.5–1.5 mm. long, expanding above into a spherical stroma 0.25–1 mm. in diameter, mammilose from the slightly prominent perithecia; perithecia 1–4 in a stroma, ovate when solitary, otherwise globose, with a faintly developed beak, 115–140 μ in diameter; ostiola prominent, black, convex 12–18 μ in diameter; asci 8-spored, cylindrical, 132–140 $\times$ 15–19 μ; ascus wall soon evanescent; spores mostly uniseriate, sometimes biseriate in the center of ascus, greenish and 0–several guttulate when young, dark continuous with age, brown, elliptical 33–42 $\times$ 15–18 μ; paraphyses abundant but imperfectly developed.

On horse dung. Exp. of P. R. (W. K. & T. *2666*). Vieques, July 18, 1924. Cornell Herb. *14745* (Type).

2. **Poronia Oedipus** Mont. Syll. Fung. 209. 1856.

On manure, Porto Rico:—Bermuda; Cuba; continental America.

6. **SOLENOPLEA** Starb. Bih. Sv. Vet.-Akad. Handl. **27** (3)[9]: 13. 1901.

1. **Solenoplea peltata** Lloyd, Myc. Notes **7**: 1354. 1925.

On wood, Porto Rico:—endemic.

7. **SPIROGRAMMA** Ferd. & Winge, Vidensk. Meddel. **1908**: 142. 1908.

1. **Spirogramma Boergesenii** Ferd. & Winge, Vidensk. Meddel. **1908**: 143.

On dead branches, St. Croix; St. Jan:—endemic.

8. **USTULINA** Tul. Fung. Carp. **2**: 23. 1863.

1. **Ustulina vulgaris** Tul. Fung. Carp. **2**: 23. 1863.

On dead wood and on the larger roots and crowns of dying grape fruit trees, Porto Rico:—Cuba; continental America; Europe; Ceylon.

Probably the same fungus as reported from the Schwanecke collection as *Hypoxylon vulgare* Link.

9. **XYLARIA** Hill. Hist. Pl. 62. 1773.

1. **Xylaria æmulans** Starb. Bih. Sv. Vet.-Akad. Handl. **27** (3)[9]: 13. 1901.

On wood, Porto Rico:—continental South America.

2. **Xylaria apiculata** Cooke, Grevillea **8**: 66. 1879.

On dead wood, Porto Rico:—New Zealand.

3. **Xylaria appendiculata** Ferd. & Winge, Bot. Tidssk. **29**: 17. 1908.

On dried leaves of *Enallagma latifolia* (Mill.) Small [*Crescentia cucurbitina* L.], St. Croix:—endemic.

4. **Xylaria Arbuscula** Sacc. Michelia **1**: 249. 1878.

On dead wood, Porto Rico:—Bermuda; Bahamas; continental North America; Europe.

Some are inclined to regard this as a branched form of the preceding.

5. **Xylaria aristata** Mont. Ann. Sci. Nat. IV. **3:** 107. 1855.

On dead leaves, Porto Rico:—Bahamas; continental South America; Borneo.

6. **Xylaria axifera** Mont. Ann. Sci. Nat. IV. **3:** 106. 1855.

On dead wood, Porto Rico:—Cuba; Borneo; Java.

7. **Xylaria Berkeleyi** Mont. Ann. Sci. Nat. IV. **3:** 104. 1855.

On dead wood, Porto Rico:—continental South America.

8. **Xylaria clavicularis** Klotzsch, Linnaea **25:** 365. 1852.

On rotten wood, Porto Rico:—endemic.
Reported from the Schwanecke collection.

9. **Xylaria consociata** Starb. Bih. Sv. Vet.-Akad. Handl. **27** (3)[9]**:** 17. 1901.

On old wood, Porto Rico:—continental South America.

10. **Xylaria cubensis** Mont. Syll. Crypt. 202. 1856.

On dead wood, Porto Rico:—Cuba; continental South America.
Xylaria involuta of the Sintenis collection is regarded by recent workers as identical with this species.

11. **Xylaria euglossa** Fries, Nova Acta. Soc. Sci. Ups. III. **1:** 124. 1855.

On wood, Porto Rico:—Costa Rica.
The present species is recorded on determination made by C. G. Lloyd.

12. **Xylaria Gomphus** Fries, Nov. Symb. Myc. 127. 1855.

Reported from the Sintenis collection, Porto Rico:—continental South America.

13. **Xylaria fimbriata** Lloyd, Myc, Notes **51:** 726. 1917.

On dead wood and soil, Porto Rico:—endemic.

14. ?**Xylaria Hypoxylon** (L.) Grev. Fl. Edin. 355. 1824.

Clavaria Hypoxylon L. Sp. Pl. 1182. 1753.

On dead wood, Porto Rico:—Cuba; continental America; Europe; Asia; Australia; Java.
The report is based on a sterile specimen so that the identity is somewhat doubtful.

15. **Xylaria inaequalis** Berk. & Curt. Jour. Linn. Soc. **10:** 382. 1868.

On wood, Porto Rico:—Cuba.

16. **Xylaria lignosa** Ferd. & Winge, Bot. Tidssk. **29:** 18. 1908.

On trunks, St. Croix:—endemic.

17. **Xylaria multiplex** (Kunze) Berk. & Curt. Jour. Linn. Soc. **10:** 381. 1868.

Sphaeria multiplex Kunze, Linnaea **5:** 536. 1830.

On old pods of *Hymenaea Courbaril* L., Porto Rico:—Cuba; continental South America; New Zealand; Java.

18. **Xylaria myosurus** Mont. Syll. Crypt. 206. 1856.

On wood, Porto Rico:—continental South America.

19. **Xylaria obovata** (Berk.) Berk. Jour. Linn. Soc. **10**: 380. 1868.

Sphaeria obovata Berk. Ann. Nat. Hist. **3**: 397. 1839.

On wood, Porto Rico:—Cuba; St. Vincent; continental South America.
This species has been recorded from Porto Rico but the specimen on which the report is based agrees with *Kretzschmaria rugosa* Earle which as indicated before may be a *Xylaria*.

20. **Xylaria obtusissima** (Berk.) Sacc. Syll. Fung. **1**: 318. 1882.

Hypoxylon obtusissimum Berk. Ann. Mag. Nat. Hist. II. **9**: 202. 1852.

On wood, Porto Rico:—Santo Domingo.
Reported from the Sintenis collection.

21. **Xylaria partita** Lloyd, Myc. Notes **48**: 675. 1917.

On dead wood, Porto Rico:—endemic.

22. **Xylaria polymorpha** (Pers.) Grev. Fl. Edin. 355. 1824.

Sphaeria polymorpha Pers. Syn. Fung. 7. 1801.

On wood, Porto Rico:—continental North and Central America: Europe; Asia; Australia; Java.
Reported from both the Sintenis and Schwanecke collections.

23. **Xylaria portoricensis** Klotzsch, Linnaea **25**: 364. 1852.

On wood, Porto Rico:—endemic.
Reported from both the Sintenis and Schwanecke collections.

24. **Xylaria Schweinitzii** Berk. & Curt. Jour. Acad. Nat. Sci. Phil. II. **2**: 284. 1853.

On dead wood, Porto Rico:—continental North America.

25. **Xylaria scopaeformis** Mont.; Berk. & Br. Jour. Linn. Soc. **14**: 119. 1873.

On dead wood, Porto Rico:—Cuba; continental South America; Ceylon.

26. **Xylaria sessilis** Ferd. & Winge, Bot. Tidssk. **29**: 18. 1908.

On bark, St. Thomas:—endemic.

27. **Xylaria subtorulosa** Speg. Bol. Acad. Ci. Cordoba **11**: 515. 1889.

On mossy trunks, St. Thomas:—South America.

28. **Xylaria subtrachelina** P. Henn. Hedwigia **43**: 207. 1904.

On brittle wood, St. Croix:—South America.

29. **Xylaria tabacina** (Kickx) Berk. Jour. Bot. & Kew Mis. **6**: 225. 1854.

Hypoxylon tabacinum Kickx, Bull. Acad. Brux. **8**[1]: 76. 1841.

On wood. Reported from Porto Rico under the name of *Xylaria involuta* Cooke, which is regarded as a synonym of the above. See Grevillea **13**: 9. 1884.
Porto Rico:—Cuba; South America; Asia.

Order 12. **PEZIZALES.**

Asci operculate.		
Spores remaining permanently hyaline or pale brownish, never purple.	Fam. 1.	PEZIZACEAE.
Spores becoming purple, fading to brown.	Fam. 2.	ASCOBOLACEAE.
Asci inoperculate.		
Apothecia superficial.		
Apothecia club-shaped.	Fam. 3.	GEOGLOSSACEAE.
Apothecia discoid or cup-shaped.		
Fleshy or waxy, the ends of the paraphyses free.		
Color bright, usually yellow.	Fam. 4.	HELOTIACEAE.
Color dull or dark.	Fam. 5.	MOLLISIACEAE.
Leathery or cartilaginous, the ends of the paraphyses forming an epithecium.	Fam. 6.	PATELLARIACEAE.
Apothecia erumpent.	Fam. 7.	CENANGIACEAE.

Family 1. **PEZIZACEAE.**

1. **COOKEINA** Kuntze, Rev. Gen. Pl. **2**: 849. 1891.

1. Cookeina sulcipes (Berk.) Kuntze, Rev. Gen. Pl. **2**: 849. 1891.

Peziza sulcipes Berk. Jour. Bot. **1**: 141. 1842.

On dead and rotten wood, Porto Rico:—Cuba; Jamaica; Santo Domingo; Trinidad; Mexico; Central and South America; Samoa; Java.

2. Cookeina tetraspora Seaver, Mycologia **17**: 45. 1925.

On decaying leaves of some palm, also on old stick, Porto Rico:—endemic.

3. Cookeina Tricholoma (Mont.) Kuntze, Rev. Gen. Pl. **2**: 849. 1891.

Peziza Tricholoma Mont. Ann. Sci. Nat. II. **2**: 77. 1834.

On dead wood, Porto Rico:—Cuba; Santo Domingo; Jamaica; Guadeloupe; Trinidad; Mexico; southeastern United States; Central and South America; Philippine Islands; West Africa.

2. **HUMARIA** (Fries) Sacc. Syll. Fung. **8**: 118. 1889.

1. Humaria Cookeina Seaver, Mycologia **17**: 46. 1925.

On dead sticks, Porto Rico:—endemic.

2. Humaria phyllogena Seaver, Mycologia **17**: 46. 1925.

On dead leaves, Porto Rico:—endemic.

3. **LACHNEA** Gill. Champ. Fr. Discom. 57. 1879.

1. Lachnea coprinaria (Cooke) Phill. Brit. Discom. 224. 1887.

Peziza coprinaria Cooke, Grevillea **4**: 91. 1875.

On dung, Porto Rico:—continental America; Europe.

2. Lachnea cubensis (Berk. & Curt.) Sacc. Syll. Fung. **8**: 176. 1889.

Peziza cubensis Berk. & Curt. Jour. Linn. Soc. **10**: 366. 1868.

On dead sugar cane and debris, Porto Rico:—Cuba; Jamaica; Bahamas; Trinidad; Texas; continental South America.

3. **Lachnea scutellata** (L.) Gill. Champ. Fr. Discom. 75. 1882.

Peziza scutellata L. Sp. Pl. 1181. 1753.

Reported on *Musa* sp. from St. Croix:—continental North America; Mexico; Europe. The present species is very similar to the preceding and specimens reported under this name may be identical with that one.

4. **LAMPROSPORA** De-Not. Comm. Critt. Ital. **1**: 388. 1863.

1. **Lamprospora discoidea** (P. Henn. & Nym.) Seaver, Mycologia **6**: 19. 1914.

Barlaea discoidea P. Henn. & Nym. Monsunia **1**: 33. 1900.

On the ground, Porto Rico:—continental North America.

2. **Lamprospora salmonicolor** Seaver, Mycologia **17**: 47. 1925.

On bare soil, Porto Rico:—endemic.

3. **? Lamprospora Wrightii** (Berk. & Curt.) Seaver, Mycologia **6**: 15. 1914.

Peziza Wrightii Berk. & Curt.; Berk. & Br. Ann. Mag. Nat. Hist. III. **15**: 444. 1865.

On soil, Porto Rico:—Cuba; continental North America; Europe.

5. **PEZIZA** (Dill.) L. Sp. Pl. 1180. 1753.

1. **Peziza adnata** Berk. & Curt. Jour. Linn. Soc. **10**: 365. 1868.

On wood, Porto Rico:—Cuba.

6. **PHILLIPSIA** Berk. Jour. Linn. Soc. **18**: 388. 1881.

1. **Phillipsia domingensis** Berk. Jour. Linn. Soc. **18**: 388. 1881.

Peziza domingensis Berk. Ann. Mag. Nat. Hist. II. **9**: 201. 1852.

On dead wood, Porto Rico:—Cuba; Santo Domingo; Jamaica; continental South America; Australia; Japan; Africa; Samoa.

2. **Phillipsia Chardoniana** Seaver, Mycologia **17**: 48. 1925.

On decaying wood, Porto Rico:—endemic.

This species is known from a single collection by Chardon near Adjuntas. The large size and brilliant color make it a conspicuous plant and it should be recollected.

7. **PYRONEMA** Carus, Nov. Act. Acad. Nat. Cur. **17**: 370. 1835.

1. **Pyronema omphalodes** (Bull.) Fuckel, Symb. Myc. 319. 1869.

Peziza omphalodes Bull. Herb. Fr. *pl. 485, f. 1.* 1790. Hist. Champ. 264. 1809.

On burnt ground, Porto Rico; St. Croix:—probably world wide.

Although apparently occurring on burnt ground everywhere, this fungus is seldom collected except by those who are familiar with its appearance and habits. The first collection recorded from Porto Rico was obtained by us in 1923.

Family 2. **ASCOBOLACEAE.**

1. **ASCOBOLUS** Pers. in L. Syst. Nat. 1461. 1791.

1. **Ascobolus immersus** Pers. Obs. Myc. **1**: 35. 1796.

Grown by the writer on dung collected in Porto Rico by B. Fink:—Bermuda; continental North America; Europe.

2. **Ascobolus magnificus** Dodge, Mycologia **4**: 218. 1912.

On cow manure, Porto Rico:—continental North America.

3. **Ascobolus stercorarius** (Bull.) Schröt. Krypt.-Fl. Schles. 3^2: 56. 1908.

Peziza stercoraria Bull. Herb. Fr. *pl. 376, f. 1.* 1787.

On cow dung, Porto Rico:—Bermuda; continental America; Europe; Africa.

2. **ASCODESMIS** Van Tiegh. Bull. Soc. Bot. Fr. **23**: 271. 1876.

1. **Ascodesmis porcina** Seaver, Mycologia **8**: 3. 1916.

On pig dung, Porto Rico:—continental North America.

This inconspicuous species has been obtained once on pig dung from Porto Rico and once on similar substratum from New Jersey.

3. **ASCOPHANUS** Boud. Ann. Sci. Nat. V. **10**: 241. 1869.

1. **Ascophanus carneus** (Pers.) Boud. Ann. Sci. Nat. V. **10**: 250. 1869.

Ascobolus carneus Pers. Syn. Fung. 676. 1801.

On dung, Porto Rico; St. Thomas:—Bermuda; continental North America. Europe.

2. **Ascophanus granulatus** (Bull.) Speg. Michelia **1**: 235. 1878.

Peziza granulata Bull. Herb. Fr. *pl. 438, f. 3.* 1789.

On dung and debris, Porto Rico:—continental America; Europe; Ceylon.

3. **Ascophanus testaceus** (Moug.) Phill. Brit. Discom. 310. 1887.

Peziza testacea Moug.; Fries, Elench. Fung. **2**: 11. 1828.

On rotten leather, Porto Rico:—continental North America: Europe.

4. **SACCOBOLUS** Boud. Ann. Sci. Nat. V. **10**: 228. 1869.

1. **Saccobolus Kerverni** (Crouan) Boud. Ann. Sci. Nat. V. **10**: 229. 1869.

Ascobolus Kerverni Crouan, Ann. Sci. Nat. IV. **10**: 193. 1858.

On dung, Porto Rico:—Bermuda: continental America; Europe.

2. **Saccobolus portoricensis** Seaver; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 161. 1918. (hyponym.)

On dung, Porto Rico:—endemic.

Resembling the preceding but differing in the spores being subglobose, $17 \times 20\ \mu$.

3. **Saccobolus violascens** Boud. Ann. Sci. Nat. V. **10**: 230. 1869.

Cultivated on goat dung from Porto Rico:—continental North America; Europe.

Family 3. **GEOGLOSSACEAE.**

1. **GEOGLOSSUM** Pers. Neues Mag. Bot. **1**: 116. 1794.

1. **Geoglossum nigritum** (Pers.) Cooke, Mycographia 205, *pl. 96, f. 345.* 1879.

On soil, Porto Rico:—Bermuda; continental North America.

Very common in Bermuda but apparently rare in Porto Rico, so far as our experience has gone.

2. **Geoglossum pumilum** Winter, Grevillea **15**: 91. 1886.

On the ground, Porto Rico:—Bermuda; continental South America.

Two minute plants of this species were obtained by us in Bermuda. A similar collection was made in Porto Rico where a diligent search failed to reveal more than the two plants.

Family 4. **HELOTIACEAE.**

1. **CIBORIA** Fuckel, Symb. Myc. 311. 1869.

1. **Ciboria caespitosa** Seaver, Mycologia **17**: 48. 1925.

On some wood, Porto Rico:—endemic.

2. **Ciboria** sp.

Reported on old branches, St. Thomas:—

2. **DASYSCYPHA** (Fries) Fuckel, Symb. Myc. 304. 1869.

1. **Dasyscypha Dicranopteridis** Seaver & Whetzel, sp. nov.

Apothecia scattered, hypophyllous, shortly stipitate or subsessile, externally reddish, turning purple with KOH, densely clothed with white hairs, reaching a diameter of .5 mm. and of about equal height; hairs cylindrical, roughened on the outside; asci clavate, 8-spored, 40–50 × 5 μ, attenuated below into a rather long stem-like base; spores fusiform with the ends acute and almost bristle-like, not distinctly septate, although often with a suggestion of septa, 10–11 × 2 μ.

On *Dicranopteris pectinata* (Willd.) Underw. [*Gleichenia pectinata* Willd.]. Fincamaria, (mountains above Yauco), June 18, 1924.

This is closely related to *Dasyscypha Ulei* (Winter) Sacc., an authentic specimen of which has been examined (*Peziza Ulei* Winter, Rabenh.–Winter, Fungi Eur. *3273*), which was described from South America on living fronds of *Gleichenia dichotoma*. Our species differs from the Brazil plant in the much smaller size of the asci and spores.

Whetzel, Kern & Toro *2683*—C. U. Herb. *14742*.

2. **? Dasyscypha flavidula** Rehm, Ann. Myc. **7**: 542. 1909.

On dead stems, Porto Rico:—endemic.

3. **ERINELLA** Quél. Ench. Fung. 301. 1886.

1. **Erinella similis** Bres. Hedwigia **35**: 296. 1896.

On wood, Porto Rico:—continental South America.

4. **HELOTIUM** Fries, Summa Veg. Scand. 354. 1849.

1. **Helotium citrinum** (Hedw.) Fries, Summa Veg. Scand. 354. 1849.

Octospora citrina Hedw. Descr. **2**: 28. 1788.

Reported on dead wood, Porto Rico:—continental North America; Europe; New Zealand. Probably widely distributed.

5. **PHIALEA** (Pers.) Gill. Champ. Fr. Discom. 93. 1879.

1. **Phialea Cecropiae** (P. Henn.) Seaver, Mycologia **17**: 50. 1925.

Helotium Cecropiae P. Henn. Hedwigia **41**: 25. 1902.

On leaf sheaths of *Cecropia*, Porto Rico:—endemic.

2. **Phialea microspora** Seaver, Mycologia **17**: 50. 1925.
On undetermined leaves, Porto Rico:—endemic.

6. **TRICHOPEZIZA** Fuckel, Symb. Myc. 195. 1869.

1. **Trichopeziza episphaeria** (Mart.) Lamb. Myc. Belg. **2**: 524. 1880.
Peziza episphaeria Mart. Fl. Erlang. 465. 1817.
On *Hypoxylon rubiginosum* (Pers.) Fries, St. Jan:—Europe.

Family 5. **MOLLISIACEAE.**

1. **BELONIDIUM** Mont. & Dur.; De-Not. Comm. Critt. Ital. **1**: 380. 1863.

1. **Belonidium leucorrhodinum** (Mont.) Sacc. Syll. Fung. **8**: 501. 1889.
Peziza leucorrhodina Mont. Pl. Cell. Cuba 360. 1842.
Peziza gelatinosa Ellis & Mart. Am. Nat. **17**: 1283. 1883.
On Perisporiaceae on various hosts, Porto Rico:—continental South America.
Reported from the Fink collection by Petrak under the name of *Calloria gelatinosa* (Ellis & Mart.) Durand.

2. **NIPTERA** Fries, Summa Veg. Scand. 359. 1849.

1. **Niptera subiculata** Seaver, Mycologia **16**: 8. 1924.
On a black subiculum on rotten stick, St. Thomas:—endemic.

3. **ORBILIA** Fries, Summa Veg. Scand. 357. 1849.

1. **Orbilia chrysocoma** (Bull.) Sacc. Syll. Fung. **8**: 624. 1889.
Peziza chrysocoma Bull. Champ. Fr. **1**: 254. 1809.
On dead wood, Porto Rico:—continental North America; Europe.

4. **TRICHOBELONIUM** Sacc. Syll. Fung. **16**: 747. 1902.

1. **Trichobelonium albosuccineum** Rehm, Hedwigia **39**: 89. 1900.
On leaves, Porto Rico:—continental South America.

Family 6. **PATELLARIACEAE.**

1. **BACTROSPORA** Massal. Ricerche Aut. Lich. Crost. 133. 1852.

Bactrospora integrispora Seaver, Mycologia **16**: 8. 1924.
On decorticated wood, St. Thomas:—endemic.

2. **IONOMIDOTIS** Durand, Proc. Am. Acad. Sci. **59**: 8. 1923.

Ionomidotis portoricensis Seaver, Mycologia **17**: 50. 1925.
On dead wood, Porto Rico:—endemic.

3. **KARSCHIA** Koerber, Parerga Lich. 459. 1865.

Karschia lignyota (Fries) Sacc. Syll. Fung. **8**: 779. 1889.
Patellaria lignyota Fries, Syst. Myc. **2**: 150. 1822.
On dead wood, Porto Rico:—continental North America; Europe.

4. **MIDOTIS** Fries, Summa Veg. Scand. 362. 1849.

1. **Midotis heteromera** Mont. Syll. Crypt. 189. 1856.

On wood, Porto Rico:—Cuba.
Reported from the Sintenis collection.

1. **PATELLARIA** Fries, Syst. Myc. **2**: 158. 1822.

1. **Patellaria atrata** (Hedw.) Fries, Syst. Orbis Veg. 113. 1825.

Lichen atratus Hedw. Descr. **2**: 73. 1789.
On wood, Porto Rico:—widely distrlbuted.

2. **Patellaria cyanea** Cooke, Jour. Linn. Soc. **17**: 142. 1880.

Lecanidion cyaneum Sacc. Syll. Fung. **8**: 801. 1889.
On dead citrous twigs, Porto Rico:—continental North America.

3. **Patellaria Finkii** Petrak, Ann. Myc. **21**: 309. 1923.

On wood, Porto Rico:—endemic.

Family 7. CENANGIACEAE.

1. **DERMATEA** Fries, Summa Veg. Scand. 362. 1849.

1. **Dermatea dimorpha** Seaver, Mycologia **16**: 8. 1924.

On dead wood and branches, St. Thomas:—endemic.

Order 13. HYSTERIALES.

Apothecia immersed in the substratum. Fam. 1. HYPODERMATACEAE.
Apothecia becoming superficial. Fam. 2. HYSTERIACEAE.

Family 1. HYPODERMATACEAE.

1. **LOPHODERMIUM** Chev. Fl. Paris **1**: 435. 1836.

1. **Lophodermium Mangiferae** Koord. Bot. Untersuch. 163. 1907.

On *Mangifera indica* L., Porto Rico:—Java.

2. **Lophodermium platyplacum** (Berk. & Curt.) Sacc. Syll. Fung. **2**: 792. 1883.

Hysterium platyplacum Berk. & Curt. Jour. Linn. Soc. **10**: 372. 1869.
On *Clusia* sp., Porto Rico:—Cuba; Trinidad.

Family 2. HYSTERIACEAE.

1. **GLONIELLA** Sacc. Syll. Fung. **2**: 765. 1883.

1. **Gloniella rubra** Stevens, Bot. Gaz. **69**: 254. 1920.

On *Arthrostylidium multispicatum* Pilger, Porto Rico:—endemic.

2. **GLONIOPSIS** De-Not. Giorn. Bot. Ital. 2^2: 23. 1851.

1. **Gloniopsis guttulata** Seaver, Mycologia **16**: 9. 1924.

On decorticated wood, St. Thomas:—endemic.

3. **GLONIUM** Muehl.; Schw. Schr. Nat. Ges. Leipzig **1**: 50. 1822.

1. **Glonium clavisporum** Seaver, Mycologia **17**: 4. 1925.

On wood, Porto Rico; St. Croix:—Nicaragua.

Glonium simulans f. *macrospora* as noted in Mycologia (l.c.) is apparently the same.

2. **Glonium parvulum** (Ger.) Sacc. Syll. Fung. **2**: 735. 1883.

Hysterium parvulum Ger. Bull. Torrey Bot. Club **5**: 40. 1874.

On dead citrous stump, Porto Rico:—continental North America.

4. **HYSTERIUM** Tode, Fungi Meckl. **2**: 3. 1791.

1. **Hysterium Calabash** Seaver, Mycologia **16**: 9. 1924.

On the surface of dried calabash fruit, St. Thomas:—endemic.

5. **OSTREIONELLA** Seaver, gen. nov.

Perithecia superficial similar to those of the genus *Ostreion;* asci clavate, 8-spored; spores 2-celled, fusoid, constricted at the septum, pale-brown.

1. **Ostreionella fusispora** Seaver, sp. nov.

Perithecia moderately large, reaching a length of 1 mm., bilaterally more or less compressed, lips tightly compressed; asci reaching a length of 150 μ tapering gradually into a stem-like base; spores 18–20 × 5–6μ.

Type collected by E. G. Britton on rotten wood, March 15, 1925, Cidra, Porto Rico:—endemic.

6. **PSILOGLONIUM** Höhn. Ann. Myc. **16**: 149. 1918.

1. **Psiloglonium Finkii** Petrak, Ann. Myc. **21**: 308. 1923.

On sticks, Porto Rico:—endemic.

Order 14. PHACIDIALES.

Apothecia soft, fleshy. Fam. 1. STICTIDACEAE.
Apothecia hard, carbonaceous. Fam. 2. PHACIDIACEAE.

Family 1. STICTIDACEAE.

1. **CRYPTODISCUS** Corda, Ic. Fung. **2**: 37. 1838.

1. **Cryptodiscus subreticulatus** (Berk. & Br.) Sacc. Syll. Fung. **8**: 673. 1889.

Platygrapha subreticulata Berk. & Br. Jour. Linn. Soc. **14**: 109. 1875.

On bark, Porto Rico:—Ceylon.

2. **COCCOMYCES** De-Not. Giorn. Bot. Ital. **2**: 38. 1847.

1. **Coccomyces Clusiae** (Lév.) Sacc. Syll. Fung. **8**: 747.1889.

Phacidium Clusiae Lév. Ann. Sci. Nat. IV. **20**: 291. 1863.

On *Clusia rosea* Jacq., Porto Rico:—continental South America.

2. **Coccomyces Musae** (Lév.) Sacc. Syll. Fung. **8**: 752. 1889.

Pacidium Musae Lév. Ann. Sci. Nat. IV. **20**: 291. 1863.

On *Musa* sp., Porto Rico:—continental South America.

3. **STICTIS** Pers. Obs. Myc. **2**: 73. 1796.

1. **Stictis foliicola** Berk. & Curt. Jour. Linn. Soc. **10**: 371. 1868.
On dead leaves, *Clusia* sp., Porto Rico:—Cuba.

2. **Stictis radiata** Pers. Obs. Myc. **2**: 73. 1799.
Lycoperdon radiatum L. Sp. Pl. ed. 2, 1654. 1763.
On dead citrous twigs, Porto Rico:—continental North America; Europe; Australia; Africa; Tasmania.

4. **TRIBLIDIUM** Dufour, Ann. Sci. Nat. I. **13**: 321. 1828.

1. **Triblidium rufulum** (Spreng.) Ellis & Ev. N. Am. Pyrenom. 690. 1892.
Hysterium rufulum Spreng. Vet. Akad. Handl. **1820**: 50.
On dead sticks and twigs, Porto Rico; St. Thomas:—Cuba; Jamaica; Bahamas; Bermuda; continental America.

Family 2. PHACIDIACEAE.

1. **GRIGGSIA** Stevens & Dalbey, Bot. Gaz. **68**: 224. 1919.

1. **Griggsia cyathea** Stevens & Dalbey, Bot. Gaz. **68**: 224. 1919.
On *Cyathea arborea* (L.) J. E. Sm., Porto Rico:—endemic.
The systematic position of this species is somewhat doubtful but the author of the species suggests that it might be placed in the above family.

Sub-class 3. DEUTEROMYCETES.

Conidia produced in perithecium-like bodies known as pycnidia. — Order 1. PHYLLOSTICTALES.
Conidia not produced in pycnidia.
  Conidia in layers which are freely exposed at maturity. — Order 2. MELANCONIALES.
  Conidia on conidiophores which are single or collected into tufts. — Order 3. HYPHOMYCETALES.

Order 1. PHYLLOSTICTALES.

Pycnidia more or less globose or flask-shaped.
  Pycnidial wall black, membranaceous, leathery or carbonaceous. — Fam. 1. PHYLLOSTICTACEAE.
  Pycnidial wall and stroma bright colored, fleshy or waxy. — Fam. 2. ASCHERSONIACEAE.
Pycnidia not globose or flask-shaped.
  Pycnidia more or less superficial, shield-shaped, opening with a slit-like aperture. — Fam. 3. LEPTOSTROMATACEAE.
  Pycnidia more or less scutellate, at first closed, the fruiting surface finally freely exposed. — Fam. 4. EXCIPULACEAE.

Family 1. PHYLLOSTICTACEAE.

1. **ACTINONEMA** Fries, Summa Veg. Scand. 424. 1849.

1. **Actinonema Rosae** (Lib.) Fries, Summa Veg. Scand. 424. 1849.
Asteroma Rosae Lib. Mem. Linn. Soc. Paris **5**: 405. 1827.
On leaves of *Rosa* sp., Porto Rico:—continental North America; Europe.
The perfect stage *Diplocarpon Rosae* Wolf (Bot. Gaz. **54**: 231. 1912) not known from Porto Rico.

2. **ASCOCHYTA** Lib. (p. p.); Sacc. Giorn. Bot. Ital. **7**: 302. 1875.

1. **Ascochyta Nicotianae** Pass. Att. Critt. Ital. **3**: 14. 1881.
On *Nicotiana Tabacum* L., Porto Rico:—Europe.

3. **CICINNOBOLUS** Ehr. Bot. Zeit. **11**: 16. 1853.

1. **Cicinnobolus Cesatii** DeBary, Abh. Senckenb. Ges. Nat. **7**: 431. 1870.
On *Erysiphe Polygoni* ? on *Emelista tora* (L.) Britton & Rose, *Cassia* sp., Porto Rico; St. Croix; *Sida* sp., St. Jan:—Europe; Africa.

4. **CONIOTHYRIUM** Corda, Ic. Fung. **4**: 38. 1840.

1. **Coniothyrium Marisci** Tehon, Bot. Gaz. **67**: 508. 1919.
On *Mariscus jamaicensis* (Crantz) Britton, Porto Rico:—endemic.

5. **CRYPTOSTICTIS** Fuckel, Fung. Rhen. *1838*. 1866.

1. **Cryptostictis hysterioides** Fuckel, Fungi Rhen. *1838*. 1869.
Hendersonia hysterioides Fuckel, Symb. Myc. 392. 1869.
On dead leaves, Porto Rico:—Europe.

6. **CYTOSPORA** Ehr. Sylv. Myc. Berol. 28. 1818.

1. **Cytospora Sacchari** Butler, Mem. Dept. Agr. Ind. 1^3: 30. 1906.
On dead and dying sugar cane, leaf-sheaths and stalks, Porto Rico:—India.

7. **DARLUCA** Cast. Cat. Pl. Suppl. 53. 1851.

1. **Darluca Filum** (Biv.) Sacc. Syll. Fung. **3**: 410. 1884.
Sphaeria Filum Biv. Stirp. Rar. Manip. **3**: 12. 1815.
Darluca vagans Cast. Cat. Pl. Suppl. 53. 1851.
On plant rusts, Porto Rico; St. Croix; St. Thomas:—continental North America; Europe; Ceylon; Africa.

8. **DIPLODIA** Fries, Summa Veg. Scand. 416. 1849.

1. **Diplodia cacaoicola** P. Henn. Bot. Jahrb. **22**: 80. 1895.
On *Saccharum officinarum* L. and *Theobroma Cacao* L., Porto Rico:—Africa.

2. **Diplodia natalensis** Evans, Transv. Dept. Agr. Bull. **4**: 15. 1910.
On *Citrus* sp., Porto Rico:—continental Africa.

3. **Diplodia Opuntiae** Sacc. Michelia **2**: 267. 1881.
On *Opuntia* sp., Porto Rico:—Europe.

4. **Diplodia tubericola** (Ellis & Ev.) Taub. Del. Exp. Station Bull. **109**: 27. 1915.
Lasiodiplodia tubericola Ellis & Ev. Bot. Gaz. **21**: 92. 1896.
On *Ipomoea Batatas* (L.) Lam., Porto Rico:—continental North America.

9. **DOTHIORELLA** Sacc. Michelia **2**: 5. 1880.

1. **Dothiorella pseudodiblasta** Ferd. & Winge, Vidensk. Meddel. **1908**: 144.
On living stems of *Scleria* sp., St. Jan:—endemic.

10. **MELOPHIA** Sacc. Syll. Fung. **3**: 658. 1884.

1. **Melophia Eugeniae** Ferd. & Winge, Bot. Tidssk. **29**: 20. 1908.
On living leaves of *Eugenia* sp., St. Thomas:—endemic.

11. **PHOMA** Fries, Summa Veg. Scand. 421. 1849.

1. **Phoma destructiva** Plowr. Gard. Chron. **16**: 621. 1881.
On *Lycopersicon Lycopersicon* (L.) Karst. [*Lycopersicon esculentum* Mill.], Porto Rico:—Europe.

2. **Phoma Foucroyae** Thüm. Contr. Myc. Lus. No. *332*. 1879.
On *Fucraea tuberosa* Ait., Porto Rico:—Europe.

3. **Phoma lathyrina** Sacc. Michelia **2**: 274. 1881.
On pods of *Albizzia Lebbeck* (L.) Benth., Porto Rico:—Europe.

4. **Phoma Leonotidis** Seaver, Mycologia **16**: 9. 1924.
On dead stems of *Leonotis nepetaefolia* (L.) R. Br., St. Thomas:—endemic.

12. **PHOMOPSIS** Sacc. Ann. Myc. **3**: 166. 1905.

1. **Phomopsis Citri** Fawcett, Phytopathology **2**: 109. 1912.
On species of *Citrus*, Porto Rico:—continental North America.

2. **Phomopsis vexans** (Sacc. & Syd.) Harter, Jour. Agr. Res. **2**: 338. 1914.
Phoma vexans Sacc. & Syd. in Sacc. Syll. Fung. **14**: 889. 1899.
On *Solanum Melongena* L., Porto Rico:—continental North America.

13. **PHYLLOSTICTA** Pers. Champ. Comest. 55, 147. 1819.

1. **Phyllosticta adianticola** Young, Mycologia **7**: 144. 1915.
On *Adiantum tenerum* Sw., Porto Rico:—endemic.

2. **Phyllosticta Apii** Halst. Rep. N. J. Agr. Exp. Sta. **12**: 253. 1891.
On *Celeri graveolens* (L.) Britton [*Apium graveolens* L.], Porto Rico:—continental North America.

3. **Phyllosticta araliana** Young, Mycologia **7**: 148. 1915.
On *Dendropanax arboreum* (L.) Dcne. & Pl., Porto Rico:—endemic.

4. **Phyllosticta Batatas** (Thüm.) Cooke, Grevillea **7**: 35. 1878.
Depazea Batatas Thüm. Myc. Univ. *598*. 1876.
On *Ipomoea Batatas* (L.) Lam., Porto Rico:—Europe; continental North America.

5. **Phyllosticta bixina** Young, Mycologia **7**: 148. 1915.
On *Bixa Orellana* L., Porto Rico:—endemic.

6. **Phyllosticta bonduc** Stevens, Bot. Gaz. **69**: 256. 1920.
On *Guilandina Bonduc* L. [*Caesalpinia Bonduc* Roxb.], Porto Rico:—endemic.

7. **Phyllosticta borinquensis** Young, Mycologia **7:** 147. 1915.

On *Helicteres jamaicensis* Jacq., Porto Rico:—endemic.

8. **Phyllosticta cissicola** Speg. Anal. Mus. Nac. Buenos Aires III. **13:** 332. 1911.

On *Cissus sicyoides* L., Porto Rico:—continental North America.

9. **Phyllosticta citrullina** Chester, Bull. Torrey Club **18:** 374. 1891.

Reported on *Cucumis Melo* L. ?, Porto Rico:—continental North America.

10. **Phyllosticta Clusiae** Stevens, Trans. Ill. Acad. Sci. **10:** 195. 1915.

On *Clusia rosea* Jacq., Porto Rico:—endemic.

11. **Phyllosticta Coccolobae** Ellis & Ev. Ann. Rep. Missouri Bot. Garden **9:** 118. 1898.

On *Coccolobis uvifera* (L.) Jacq., Porto Rico:—West Indies.

12. **Phyllosticta Colocasiae** Höhn. Sitz.-ber. Akad. Wien **116:** 142. 1907.

Dieffenbachia seguine (Jacq.) Schott., Porto Rico:—Samoa.

13. **Phyllosticta colocasicola** Höhn. Sitz.-ber. Akad. Wien **116:** 142. 1907.

On *Caladium* [*Colocasia* sp.], Porto Rico:—Samoa.

14. **Phyllosticta commelinicola** Young, Mycologia **7:** 144. 1915.

On *Commelina longicaulis* Jacq. Porto Rico:—endemic.

15. **Phyllosticta Cucurbitacearum** Sacc. Michelia **1:** 145. 1878.

On *Cucumis sativus* L., Porto Rico:—continental North America; Europe.

16. **Phyllosticta desmodiiphila** Speg. Bol. Acad. Ci. Cordoba **26:** 362. 1923.

On living leaves of *Meibomia* (*adscendens* ?), Porto Rico:—endemic.

17. **Phyllosticta divergens** Sacc. Malpighia **5:** 281. 1891.

On *Albizzia Lebbeck* (L.) Benth., Porto Rico:—Europe.

18. **Phyllosticta erythrinicola** Young, Mycologia **7:** 146. 1915.

On *Erythrina Poeppigiana* (Walp.) O. F. Cook [*Erythrina micropteryx* Poepp.], Porto Rico:—endemic.

19. **Phyllosticta Eugeniae** Young, Mycologia **7:** 148. 1915.

On *Eugenia buxifolia* (Sw.) Willd., Mona Island;—endemic.

20. **Phyllosticta eupatoriicola** Kab. & Bub. Hedwigia **46:** 288. 1907.

On *Osmia odorata* (L.) Sch. Bip. [*Eupatorium odoratum* L.], Porto Rico:—Europe.

21. **Phyllosticta glaucispora** Delacr. Bull. Soc. Myc. Fr. **9**: 266. 1893.

On *Urechites lutea* (L.) Britton, Mona Island:—Europe.

22. **Phyllosticta guanicensis** Young, Mycologia **7**: 146. 1915.

On *Guilandina Crista* (L.) Small, Porto Rico:—endemic.

23. **Phyllosticta Guareae** P. Henn. Hedwigia **41**: 113. 1902.

On *Guarea Guara* (Jacq.) P. Wilson, Porto Rico:—continental South America.

24. **Phyllosticta hibiscina** Ellis & Ev. Jour. Myc. **4**: 9. 1888.

On *Abutilon umbellatum* (L.) Sweet, Mona Island:—continental North America.

25. **Phyllosticta Hortorum** Speg. Att. Soc. Critt. Ital. **3**: 67. 1881.

Referred to *Phomopsis vexans* (Sacc. & Syd.) Harter.

26. **Phyllosticta Ipomoeae** Ellis & Kellerm. Jour. Myc. **3**: 102. 1887.

On *Exogonium repandum* (Jacq.) Choisy, Porto Rico:—Bermuda ?; continental North America.

27. **Phyllosticta Lantanae** Stevens, Trans. Ill. Acad. Sci. **10**: 195. 1917.

On *Lantana involucrata* L. [*Lantana odorata* L.], Porto Rico:—endemic. The name is preoccupied and if the species is distinct should be renamed.

28. **Phyllosticta maculicola** Halst. Rep. N. J. Agr. Exp. Sta. **14**: 412. 1894.

On *Dracaena terminalis* L. [*Cordyline terminalis* Kth.], Porto Rico:—continental North America; Europe.

29. **Phyllosticta Malkoffii** Bubak, Ann. Myc. **6**: 24. 1908.

On *Gossypium barbadense* L., Porto Rico:—Europe.

30. **Phyllosticta momisiana** Young, Mycologia **7**: 145. 1915.

On *Momisia iguanaea* (Jacq.) Rose & Stanley, Porto Rico:—endemic.

31. **Phyllosticta pandanicola** Young, Mycologia **7**: 150. 1915.

On *Pandanus* sp., Porto Rico:—endemic.

32. **Phyllosticta Panici** Young, Mycologia **7**: 144. 1915.

On *Panicum maximum* Jacq., Porto Rico:—endemic.

33. **Phyllosticta Pithecolobii** Young, Mycologia **7**: 145. 1915.

On *Pithecellobium Unguis-cati* (L.) Mart., Porto Rico:—endemic.

34. **Phyllosticta Pithecolobii** var. **monensis** Young, Mycologia **7**: 145. 1915.

On *Pithecellobium Unguis-cati* (L.) Mart., Mona Island:—endemic.

35. **Phyllosticta portoricensis** Young, Mycologia **7**: 147. 1915.

On *Croton lucidus* L., Porto Rico:—endemic.

36. **Phyllosticta Sacchari** Speg. Rev. Agr. Univ. La Plata **1896:** 239.
On *Saccharum officinarum* L., Porto Rico:—continental South America.

37. **Phyllosticta Sechii** Young, Mycologia **7:** 149. 1915.
On *Sechium edule* (Jacq.) Sw., Porto Rico:—endemic.

38. **Phyllosticta Stevensii** Young, Mycologia **7:** 147. 1915.
On *Triumfetta semitriloba* Jacq., Porto Rico:—endemic.

39. **Phyllosticta superficiale** Stevens, Trans. Ill. Acad. Sci. **10:** 195. 1917.
On *Passiflora sexflora* Juss., Porto Rico:—endemic.

14. **PSEUDODIPLODIA** (Karst.) Sacc. Syll. Fung. **3:** 621. 1884.

1. **Pseudodiplodia Xylariae** Ferd. & Winge, Bot. Tidssk. **29:** 21. 1908.
On *Xylaria* sp., St. Jan:—endemic.

15. **SEPTORIA** Fries, Syst. Myc. **3:** 480. 1832.

1. **Septoria asiatica** Speg. Rev. Agr. Univ. La Plata **6:** 168. 1910.
On *Centella asiatica* (L.) Urban, Porto Rico:—continental South America.

2. **Septoria Chelidonii** Desm. Ann. Sci. Nat. II. **17:** 110. 1842.
On *Argemone mexicana* L., Porto Rico:—Europe.

3. **Septoria Fici-indicae** Vogl. Ann. R. Acad. Agr. Tor. **1904:** 401.
On *Opuntia Dillenii* (Ker-Gawl.) Haw., Porto Rico:—Europe.

4. **Septoria Guettardae** Garman, Mycologia **7:** 334. 1915.
On *Guettarda ovalifolia* Urban, Porto Rico:—endemic.

5. **Septoria Lantanae** Garman, Mycologia **7:** 334. 1915.
On *Lantana Camara* L., Porto Rico:—endemic.

6. **Septoria Lycopersici** Speg. Anal. Soc. Ci. Argent. **12:** 115. 1881.
On *Lycopersicon Lycopersicon* (L.) Karst., Porto Rico:—continental America.

7. **Septoria Miconiae** Garman, Mycologia **7:** 333. 1915.
On *Miconia laevigata* (L.) DC., *M. impetiolaris* (Sw.) D. Don, Porto Rico:—endemic.

8. **Septoria Mikaniae** Winter, Grevillea **15:** 92. 1887.
On *Mikania* sp., Porto Rico:—continental South America.

9. **Septoria Petitae** Garman, Mycologia **7:** 333. 1915.
On *Petitia domingensis* Jacq., Porto Rico:—endemic.

10. **Septoria Petroselini** var. **Apii** Briosi & Cav. Fungi Parass. *144.* 1891.

On *Celeri graveolens* (L.) Britton,Porto Rico:—continental North America; Europe; Africa.

11. **Septoria Pityrogrammae** Garman, Mycologia **7:** 334. 1915.

On *Pityrogramma calomelanos* (L.) Link, Porto Rico:—endemic.

12. **Septoria Rosae** Desm. Crypt. Fr. *535.* 1831.

On *Rosa* sp., Porto Rico:—Europe.

13. **Septoria rufomaculans** Berk. Gard. Chronicle **1854:** 676. 1854.

See *Glomerella rufomaculans.*

16. **CERCOSEPTORIA** Petrak, Ann. Myc. **23:** 69. 1925.

Septoriopsis Stevens & Dalbey, Mycologia **11:** 4. 1919. Not Frag. & Paul. 1915.

1. **Cercoseptoria Chamaesyceae** (Stevens & Dalbey) Petrak, l. c.

Septoriopsis Chamaesyceae Stevens & Dalbey, Mycologia **11: 4.** 1919.

On *Chamaesyce hypericifolia* (L.) Millsp., Porto Rico:—endemic.

2. **Cercoseptoria Piperis** (Stevens & Dalbey) Petrak, Ann. Myc. **23:** 69. 1925.

Septoriopsis Piperis Stevens & Dalbey, Mycologia **11: 5.** 1919.

Ramularia cylindrosporioides Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2:** 209. 1918. (hyponym).

On *Piper Amalago* L. [*Piper medium* Jacq.], Porto Rico:—endemic.

17. **VERMICULARIA** Fries, Summa Veg. Scand. 419. 1849.

1. **Vermicularia atricha** Ellis & Ev. Field Museum Pub. Bot. Series **2:** 16. 1900.

On *Petiveria alliacea* L., Porto Rico:—endemic.

2. **Vericularia graminicola** West. Bull. Acad. Belg. II. **2:** 566. 1857.

On dead cane stalks, Porto Rico:—Europe.

Family 2. **ASCHERSONIACEAE.**

1. **ASCHERSONIA** Mont. Ann. Sci. Nat. III. **10:** 121. 1848.

1. **Aschersonia Aleyrodis** Webber, U. S. Dept. of Agr. Div. Phys. & Path. Bull. **13:** 20. 1897.

On *Aleurodiscus minimus*, the white fly of *Psidium Guajava* L., Porto Rico:—continental North America.

2. **Aschersonia flavo-citrina** P. Henn. Hedwigia **41:** 307. 1902.

On *Aleurodiscus minimus*, Porto Rico:—continental South America.

3. **Aschersonia cubensis** Berk. & Curt. Jour. Linn. Soc. **10:** 351. 1868.

On scale insects on various hosts, Porto Rico:—Cuba.

4. **Aschersonia turbinata** Berk. Ann. Mag. Nat. Hist. II. **9**: 199. 1852.
Conidial stage of *Hypocrella turbinata* (Berk.) Petch.

2. **ZYTHIA** Fries, Syst. Orbis Veg. 118. 1825.

1. **Zythia Phaseoli** Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 204. 1918.
Conidial stage of *Phyllachora Phaseoli* (P. Henn.) Theiss. & Syd.

Family 3. LEPTOSTROMATACEAE.

1. **LEPTOTHYRIUM** Kunze; Kunze & Schm. Myk. Hefte **2**: 79. 1823.

1. **Leptothyrium Pomi** (Mont.) Sacc. Michelia **2**: 113. 1880.
Labrella Pomi Mont. Ann. Sci. Nat. II. **1**: 347. 1834.
On *Citrus sinensis* (L.) Osbeck, Porto Rico:—continental North America; Europe.

2. **MELASMIA** Lév. Ann. Sci. Nat. III. **5**: 276. 1846.

1. **Melasmia Coccolobis** Stevens, Trans. Ill. Acad. Sci. **10**: 197. 1917.
On *Coccolobis* sp., Porto Rico:—endemic.

2. **Melasmia Ingae** Stevens, Trans. Ill. Acad. Sci. **10**: 197. 1917.
On *Inga laurina* (Sw.) Willd., Porto Rico:—endemic.

Family 4. EXCIPULACEAE.

1. **EPHELIS** Fries, Summa Veg. Scand. 370. 1849. Jour. Linn. Soc. **10**: 353. 1868.

1. **Ephelis mexicana** Fries; Berk. & Curt. Jour. Linn. Soc. **10**: 353. 1868.
Conidial stage of *Balansia Hypoxylon* (Peck.) Atkinson.

Order 2. MELANCONIALES.

Family 1. MELANCONIACEAE.

1. **COLLETOTRICHUM** Corda in Sturm, Deuts. Fl. Pilze **3**: 41. 1837.

1. **Colletotrichum coffeanum** Noack, Zeit. Pflanzenkr. **11**: 202. 1901.
On *Coffea arabica* L., Porto Rico:—continental South America.

2. **Colletotrichum Cradwickii** Bancroft, West Indian Bull. **10**: 251. 1910.
On *Theobroma Cacao* L., Porto Rico:—Jamaica.

3. **Colletotrichum curvisetum** Stevens, Trans. Ill. Acad. Sci. **10**: 199. 1917.
On *Hura crepitans* L., Porto Rico:—endemic.

4. **Colletotrichum Erythrinae** Ellis & Ev. Bull. Torrey Club **22**: 437. 1895.
On *Pithecellobium Unguis-cati* (L.) Mart., Porto Rico:—continental North America.

5. **Colletotrichum falcatum** Went, Meded. Proefst. Suik. West Java **7**: 7. 1893.
On *Saccharum officinarum* L., Porto Rico:—Java.
Usually on dead or dying leaves but occasionally a wound parasite on the stalk.

6. **Colletotrichum gloeosporioides** (Penz.) Sacc. Syll. Fung. **3**: 735. 1884.

Vermicularia gloeosporioides Penz. Michelia **2**: 450. 1882.

On *Citrus* sp., *Mangifera indica* L., and *Persea Persea* (L.) Cockerell [*Persea gratissima* Gaertn.], Porto Rico:—Europe.

7. **Colletotrichum Higginsianum** Sacc.; Higgins, Jour. Agr. Res. **10**: 161. 1917.

On *Brassica campestris* L. [*Brassica rapa* L.], Porto Rico:—continental North America.

8. **Colletotrichum lagenarium** (Pass.) Ellis & Halst. N. J. Agr. Exp. Sta. Rep. **14**: 351. 1893.

Fusarium lagenarium Pass. Boll. Comiz. Agron. Ital. II. No. 148.

On *Cucumis sativus* L., *C. Melo* L., Porto Rico:—continental North America; Europe.

9. **Colletotrichum Lindemuthianum** (Sacc. & Magn.) Briosi & Cav. Funghi Parass. *50*. 1889.

Gloeosporium Lindemuthianum Sacc. & Magn. Michelia **1**: 129. 1878.

On *Phaseolus vulgaris* L., *Cucurbita Melo* L., Porto Rico:—Europe.

10. **Colletotrichum lineola** Corda in Sturm, Deuts. Fl. Pilze **3**: 41. 1837.

On *Holcus halepensis* L., *H. Sorghum* L., Porto Rico:—Europe.

11. **Colletotrichum Lobeliae** Stevens, Trans. Ill. Acad. Sci. **10**: 198. 1917.

On *Tupa robusta* (Graham) A. DC. [*Lobelia assurgens* L. var. *portoricensis* Urban], Porto Rico:—endemic.

12. **Colletotrichum nigrum** Ellis & Halst. N. J. Agr. Exp. Sta. Rep. **11**: 359. 1891.

On *Capsicum annuum* L., Porto Rico:—continental North America.

13. **Colletotrichum omnivorum** Halst. N. J. Agr. Exp. Sta. Rep. **12**: 293. 1892.

On *Pandanus* sp., Porto Rico:—continental North America.

14. **Colletotrichum Philodendri** P. Henn. Hedwigia **44**: 71. 1905.

On *Philodendron Krebsii* Schott, Porto Rico:—continental South America.

15. **Colletotrichum phomoides** (Sacc.) Chester, Rep. Del. Agr. Exp. Sta. **6**: 112. 1893.

Gloeosporium phomoides Sacc. Michelia **2**: 540. 1882.

On *Lycopersicon Lycopersicon* (L.) Karst., Porto Rico:—continental North America.

16. **Colletotrichum Piperis** Stevens, Trans. Ill. Acad. Sci. **10**: 198. 1917.

On *Pothomorphe peltata* (L.) Miq., Porto Rico:—endemic.

2. **GLOEOSPORIUM** Desm. & Mont. Ann. Sci. Nat. III. **12**: 395. 1849.

1. **Gloeosporium Hemerocallidis** Ellis & Ev.; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 205. 1918.

On *Hymenocallis declinata* (Jacq.) M. Roem., Porto Rico:—endemic.

The fungus causes reddish spots on the leaves. The spores are described as 4–5 × 12–15 μ. While the species has been listed no published description has been seen.

2. **Gloeosporium Manihotis** P. Henn. Not. Bot. Gard. Mus. Berlin **3**: 241. 1903.

On *Manihot Manihot* (L.) Cockerell, Porto Rico:—East Africa.
Gloeosporium Manihot Earle, which is listed for Porto Rico by Stevenson, is doubtless the same although no published description has been seen.

3. **Gloeosporium Melongenae** Ellis & Halst. N. J. Agr. Exp. Sta. Rep. **12**: 281. 1892.

On *Solanum Melongena* L., Porto Rico:—continental North America.

4. **Gloeosporium Musarum** Cooke & Massee, Grevillea **16**: 3. 1887.

On *Musa paradisiaca* L., Porto Rico:—Australia.

5. **Gloeosporium piperatum** Ellis & Ev. N. J. Agr. Exp. Sta. Rep. **11**: 358. 1891.

See *Glomerella piperata*.

6. **Gloeosporium Psidii** G. Del. Bull. Soc. Myc. Fr. **19**: 143. 1903.

See *Glomerella rufomaculans*.

7. **Gloeosporium rufomaculans** (Berk.) Thüm. Fungi Pomicoli 59. 1879.

See *Glomerella rufomaculans*.

8. **Gloeosporium Vanillae** Cooke, Grevillea **15**: 18. 1886.

See *Glomerella rufomaculans*.

9. **Gloeosporium Violae** Berk. & Br. Ann. Mag. Nat. Hist. V. **1**: No. 1703. 1878.

On *Viola* sp., Porto Rico:—Europe.

3. **MELANCONIUM** Link in Willd. Sp. Pl. 6^2: 89. 1825.

1. **Melanconium Sacchari** Massee; Sacc. & Syd. in Sacc. Syll. Fung. **14**: 1019. 1899.

On dead and dying stalks and leaf sheaths of *Saccharum officinarum* L., Porto Rico:—continental South America.

2. **? Melanconium Saccharinum** Penz. & Sacc. Malpighia **15**: 238. 1902.

On *Bambos* [*Bambusa*] *vulgaris* Schrad., *Cymbopogon* sp., and *Saccharum officinarum* L., Porto Rico:—Java.

4. **PESTALOZZIA** De-Not. Mem. Accad. Torino III. **3**: 80. 1841.

1. **Pestalozzia Coccolobae** Ellis & Ev. Field Columb. Mus. Pub. Bot. Series **1**: 286. 1896.

On *Coccolobis uvifera* (L.) Jacq., Porto Rico:—Yucatan.

2. **Pestalozzia funerea** Desm. Ann. Sci. Nat. II. **19**: 335. 1843.

On *Euterpe globosa* Gaertn.[*Acrista monticola* Cook], *Chrysobalanus Icaco* L., *Clusia rosea* Jacq., *Hippocratea volubilis* L., *Inga Inga* (L.) Britton, *Musa paradisiaca* L., *Pithecellobium Unguis-cati* (L.) *Mart.*, *Poinciana pulcherrima* L., Porto Rico:—continental North America; Europe.

3. **Pestalozzia Guepini** Desm. Ann. Sci. Nat. II. **13**: 182. 1840.

On *Citrus* sp., *Jambos Jambos* (L.) Millsp., *Mangifera indica* L., Porto Rico:—continental North America; Europe.

4. **Pestalozzia Lucumae** Tehon, Bot. Gaz. **67**: 508. 1919.

On *Lucuma multiflora* A. DC., Porto Rico:—endemic.

5. **Pestalozzia Palmarum** Cooke, Grevillea **4**: 115. 1876.

On *Acrocomia aculeata* (Jacq.) Lodd. [*Acrocomia media* Cook], *Areca Catechu* L., *Cocos nucifera* L., *Phoenix reclinata* Jacq., Porto Rico:—continental South America; Europe.

Order 3. HYPHOMYCETALES.

Conidiophores distinct from each other.
- Hyphae hyaline or white; the conidiophores and conidia similar. — Fam. 1. MUCEDINACEAE.
- Hyphae dark colored or black, seldom light; conidia mostly dark. — Fam. 2. DEMATIACEAE.

Conidiophores united or fasciculate.
- Hyphae and conidiophores forming a coremium. — Fam. 3. STILBACEAE.
- Hyphae and conidiophores forming a cushion-like body. — Fam. 4. TUBERCULARIACEAE.

Family 1. MUCEDINACEAE.

1. **ACREMONIUM** Link, Ges. Nat. Freunde Berlin Mag. **3**: 15. 1809.

Acremonium Meliola Stevens, Bot. Gaz. **65**: 234. 1918.

On *Meliola Paulliniae* Stevens on *Paullinia pinnata* L., Porto Rico:—endemic.

2. **ACROSTALAGMUS** Corda, Ic. Fung. **2**: 15. 1838.

Acrostalagmus albus Preuss, Linnaea **24**: 126. 1851.

On sucking insects on the following hosts:—*Capsicum annuum* L., *Cucumis sativus* L., *Osmia odorata* (L.) Sch. Bip. [*Eupatorium odoratum* L.], *Abelmoschus esculentus* (L.) Moench., *Palicourea* sp., *Solanum Melongena* L., *Saccharum officinarum* L., Porto Rico:—Europe.

3. **ARTHROBOTRYS** Corda, Pracht-Fl. 43. 1839.

Arthrobotrys superba Corda, Pracht-Fl. 43. 1839.

On dead and dying leaves and debris of *Saccharum officinarum* L., Porto Rico:—Europe.

4. **BLASTOTRICHUM** Corda, Ic. Fung. **2**: 10. 1838.

Blastotrichum Miconiae Stevens, Trans. Ill. Acad. Sci. **10**: 202. 1917.

On *Miconia laevigata* (L.) DC., Porto Rico:—endemic.

5. **BOTRYTIS** Link in Willd. Sp. Pl. **6**[1]: 53. 1824.

Botrytis Rileyi Farlow; Riley, Rep. U. S. Dept. Agr. **1883**: 121. 1884.

On *Laphygma frugiperda*, Porto Rico:—continental North America.

6. **CEPHALOSPORIUM** Corda, Ic. Fung. **3:** 11. 1839.

Cephalosporium Lecanii Zimm. Teijsmannia **9:** 9. 1899.

On *Aspidiotus destructor* on *Cocos nucifera* L., *Coccus mangifera* on *Mangifera indica* L., *Pseudococcus Nipae* on *Psidium Guajava* L. and *Erythrina glauca* Willd., Porto Rico:—Europe.

7. **CHROMOSPORIUM** Corda in Sturm, Deuts. Fl. Pilze **2:** 119. 1837.

Chromosporium formicarum Ferd. & Winge, Bot. Tidssk. **29:** 21. 1908.

On brittle trunk, St. Jan:— endemic.

Chromosporium pachyderma Ferd. & Winge, Bot. Tidssk. **29:** 22. 1908.

On wood, St. Croix:—endemic.

8. **DIDYMARIA** Corda, Ic. Fung. **5:** 9. 1842.

Didymaria Solani Seaver, Mycologia **16:** 9. 1924.

On living leaves of *Solanum* sp., St. Thomas:—endemic.

9. **DIPLOSPORIUM** Bonord. Handb. Allgem. Mykol. 98. 1851.

Diplosporium album fungicola Stevens, Trans. Ill. Acad. Sci. **10:** 202. 1917.

On *Dimerium Cayaponiae* Garman on *Cayaponia* sp., Porto Rico:—endemic.

10. **METARRHIZIUM** Sor. Pfl. Paras. Mensch. **2:** 168. 1883.

1. **Metarrhizium Anisopliae** (Metschn.) Sor. l. c.

Entomophthora Anisopliae Metschn. Zeit. Kaiserl. Landw. Ges. Neur. **1879:** 21–50.

On various insect hosts, Porto Rico:—Europe.

11. **MONILIA** Weber; Wigg. Fl. Holsat. 111. 1780.

1. **Monilia Ashfordii** (See *Parasaccharomyces*).

2. **Monilia sitophila** (Mont.) Sacc. Michelia **2:** 359. 1881.

Penicillium sitophilum Mont. Ann. Sci. Nat. II. **20:** 377. 1843.

On dead debris of *Saccharum officinarum* L., after burning in all parts of Porto Rico:—Europe.

12. **MONOGRAMMIA** Stevens, Trans. Ill. Acad. Sci. **10:** 202. 1917.

1. **Monogrammia Miconiae** Stevens, Trans. Ill. Acad. Sci. **10:** 202. 1917.

On *Miconia* sp., Porto Rico:—endemic.

13. **MONOSPORIUM** Bonord. Handb. Allgem. Mykol. 95. 1851.

1. **Monosporium uredinicolum** Stevens, Trans. Ill. Acad. Sci. **10:** 201. 1917.

On *Coleosporium Ipomoeae* (Schw.) Burr. on *Ipomoea Batatas* (L.) Lam., Porto Rico:—endemic.

14. **OIDIUM** Link, Ges. Nat. Freunde Berlin Mag. **3:** 18. 1809.

1. **Oidium Cyparissiae** Syd. Hedwigia **36:** (163). 1897.

On *Chamaesyce hirta* (L.) Millsp. [*Euphorbia pilulifera* L.], St. Croix; *Chamaesyce* sp., St. Thomas:—Europe.

2. **Oidium Lactis** Fres. Beitr. Myk. 23. 1850.

Causing acetic fermentation of fruit juices. Porto Rico:—Europe.

3. **Oidium** sp.,

On many host plants, *Cassia* sp., *Cosmos* sp., *Crotalaria retusa* L., *Phaseolus lathyroides* L., *Priva lappulacea* (L.) Pers., St. Croix:—widely distributed

15. **PELLICULARIA** Cooke, Grevillea **4**: 116. 1876.

1. **Pellicularia koleroga** Cook, Grevillea **4**: 116. 1876.

See *Corticium koleroga* (Cooke) Höhn.

16. **PHYSOSPORA** Fries, Fl. Scanica 360. 1835. (hyponym): Summa Veg. Scand. 495. 1849.

1. **Physospora rubiginosa** Fries, Summa Veg. Scand. 495. 1849

On bark, St. Jan:—Europe; continental America; Africa.

17. **PIRICULARIA** Sacc. Michelia **2**: 20. 1880.

1. **Piricularia grisea** (Cooke) Sacc. Michelia **2**: 148. 1880.

Trichothecium griseum Cooke in Rav. Fungi Am. *580*. 1881.

On Oryza sativa L., *Syntherisma digitata* (Sw.) Hitchc., Porto Rico:—continental North America.

2. **Piricularia Oryzae** Cav. Fung. Long. Exsicc. *49*. 1891.

On leaves of *Oryza sativa* L., Porto Rico:—Europe.
Possibly identical with the preceding.

18. **RAMULARIA** Ung. Exantheme Pfl. 169. 1833.

1. **Ramularia areola** Atk. Bot. Gaz. **15**: 168. 1890.

On *Gossypium barbadense* L., Porto Rico:—continental North America.

2. **Ramularia Coleosporii** Sacc. Michelia **2**: 170. 1880.

On Coleosporium Ipomoeae (Schw.) Burr. on *Ipomoea Batatas* (L.) Lam., Porto Rico:—Europe.

3. **Ramularia cylindrosporioides** Stevens; Stevenson, Jour. Dept. Agr. Porto Rico **2**: 209. 1918.

See *Septoriopsis Piperis* Stevens.

4. **Ramularia Mimosae** Stevens & Dalbey, Mycologia **11**: 6. 1919.

On *Mimosa pudica* L., Porto Rico:—endemic.

19. **SPICARIA** Harting, emend. Harz, Bull. Soc. Imp. Mosc. **44**: 137. 1871.

1. **Spicaria colorans** De Jonge, Rec. Trav. Bot. Neerl. **6**: 48. 1909.

On *Theobroma Cacao* L., Porto Rico:—continental South America.

20. **SPOROTRICHUM** Link in Willd. Sp. Pl. 6[1]: 1. 1824.

1. **Sporotrichum globulifer** Speg. Anal. Soc. Ci. Argent. **10**: 42. 1880.

On insects, thrips, leaf hoppers, etc., Porto Rico: —continental South America.

21. **STEPHANOMA** Wallr. Fl. Crypt. **2**: 269. 1833.

1. **Stephanoma Meliolae** Stevens & Dalbey, Mycologia **11**: 9. 1919.

On *Meliola tortuosa* Winter, on *Pothomorphe peltata* (L.) Miq., Porto Rico:—endemic.

22. **TRICHODERMA** Pers. Disp. Fung. 12. 1797.

1. **Trichoderma lignorum** (Tode) Harz, Bull. Soc. Imp. Mosc. **44**: 116. 1871.

Pyrenium lignorum Tode, Fungi Meckl. **1**: 33. 1790.

On dead and dying leaves and stalks of *Saccharum officinarum* L., Porto Rico; St. Jan; St. Croix:—continental North America; Europe.

23. **TRICHOTHECIUM** Link in Willd. Sp. Pl. 6[1]: 28. 1824.

1. **Trichothecium fusarioides** Stevens, Trans. Ill. Acad. Sci. **10**: 201. 1917.

On *Phyllachora peribebuyensis* Speg. on *Miconia* sp., Porto Rico:—endemic.

24. **VERTICILLIUM** Link in Willd. Sp. Pl. 6[1]: 75. 1824.

1. **Verticillium heterocladum** Penz. Michelia **2**: 462. 1882.

On unidentified insects on *Ocotea leucoxylon* (Sw.) Mez. and *Nectandra* sp., Porto Rico:—Europe.

Family 2. **DEMATIACEAE.**

1. **ACROTHECIUM** Corda in Sturm, Deuts. Fl. Pilze **6**: 85. 1862.

1. **Acrothecium flacatum** Tehon, Bot. Gaz. **67**: 509. 1919.

On species of *Setaria*, Porto Rico:—endemic.

2. **ALTERNARIA** Nees, Syst. Pilze 41. 1837.

1. **Alternaria Dianthi** Stevens & Hall, Bot. Gaz. **47**: 409. 1909; Rep. Div.Biol. N. Car. Exp. Sta. **33**: 75. 1909.

On *Dianthus* sp., Porto Rico:—endemic.

2. **Alternaria Citri** Pierce, Bot. Gaz. **33**: 234. 1902.

On *Citrus sinensis* Osbeck (fruit), Porto Rico:—continental North America.

3. **Alternaria Solani** (Ellis & Martin) Jones & Grout, Jour. Agr. Vict. **2**: 464. 1904.

Macrosporium Solani Ellis & Martin, Am. Nat. **16**: 1003. 1882.

On *Brugmansia suaveolens* (H. & B.) Bercht. & Presl. [*Datura suaveolens* H. & B.?], *Solanum tuberosum* L., Porto Rico:—continental North America.

3. **ARTHRINIUM** Kunze, Myk. Hefte **1**: 9. 1817.

1. **Arthrinium saccharicola** Stevenson, Jour. Dept. Agr. Porto Rico **1**: 223. 1917.

On dead leaves of *Saccharum officinarum* L., Porto Rico:—endemic.

4. **BASISPORIUM** Moll. Bull. Soc. Myc. Fr. **18**: 167. 1902.

1. **Basisporium gallarum** Moll. Bull. Soc. Myc. Fr. **18**: 170. 1902.

On dead stalks and leaves of *Saccharum officinarum* L., and other grasses, Porto Rico:—Europe.

5. **BRACHYSPORIUM** Sacc. Michelia **2**: 28. 1880.

1. **Brachysporium stemphylioides** (Corda) Sacc. Syll. Fung. **4**: 424. 1886.
Helminthosporium stemphylioides Corda, Pracht-Fl. 7. 1839.
On *Annona montana* Macf., Porto Rico:—Europe.

6. **CERCOSPORA** Fres.; Fuckel, Fungi Rhen. *118*. 1863.

1. **Cercospora Achyranthis** Sydow, Ann. Myc. **7**: 171. 1909.

On *Centrostachys aspera* (L.) Standley [*Achyranthes aspera* L.], Porto Rico:—Japan.

2. **Cercospora Acrocomiae** Stevenson, Ann. Rep. Ins. Exp. Sta. **17**: 89. 1916.

On *Acrocomia aculeata* (Jacq.) Lodd., Porto Rico:—endemic.

3. **Cercospora Alternantherae** Ellis & Langlois, Jour. Myc. **6**: 36. 1890.

On *Achyranthes* [*Alternanthera*] *portoricensis* (Kuntze) Standley, Porto Rico:—continental North America.

4. **Cercospora Amaryllidis** Ellis. & Ev. Jour. Myc. **3**: 14. 1887.

On *Hymenocallis declinata* (Jacq.) M. Roem., Porto Rico:—continental North America.

5. **Cercospora atricincta** Heald & Wolf, Mycologia **3**: 14. 1911.

On *Crassina elegans* (Jacq.) Kuntze, Porto Rico:—continental North America.

6. **Cercospora Bernardiae** Stevens, Trans. Ill. Acad. Sci. **10**: 213. 1917.

On *Adelia Bernardia* L. [*Bernardia Bernardia* (L.) Millsp.], Porto Rico:—endemic.

7. **Cercospora beticola** Sacc. Nuov. Giorn. Bot. Ital. **8**: 189. 1876.

On *Beta vulgaris* L., Porto Rico:—continental North America.

8. **Cercospora biformis** Peck, Bull. Torrey Club **36**: 156. 1909.

On *Passiflora sexflora* Juss., Porto Rico:—continental North America.

9. **Cercospora Bixae** Allesch. & Noack, Bol. Inst. Agr. Estado **9**: 95. 1898.

On *Bixa Orellana* L., Porto Rico:—continental South America.

10. **Cercospora Bloxami** Berk. & Br. Ann. Mag. Nat. Hist. V. **9**: 183. 1882.

On species of *Brassica*, Porto Rico:—Europe.

11. **Cercospora borinquensis** Young, Mycologia **8**: 45. 1916.

On *Calopogonium orthocarpum* Urban, Porto Rico:—endemic.

12. **Cercospora Bradburyae** Young, Mycologia **8**: 46. 1916.

On *Bradburya pubescens* (Benth.) Kuntze, Porto Rico:—endemic.

13. **Cercospora Cajani** P. Henn. Hedwigia **41**: 309. 1902.

On *Cajan Cajan* (L.) Millsp., Porto Rico:—continental South America. This has been transferred to *Colletotrichum* by later authors.

14. **Cercospora canescens** Ellis & Martin, Am. Nat. **16**: 1003. 1882.

On *Dolichos Lablab* L., *Phaseolus lunatus* L., *P. vulgaris* L., *Vigna unguiculata* (L.) Walp., Porto Rico:—continental North America.

15. **Cercospora Capsici** Heald & Wolf, Mycologia **3**: 15. 1911.

On *Capsicum annuum* L., Porto Rico:—continental North America.

16. **Cercospora carbonacea** Miles, Trans. Ill. Acad. Sci. **10**: 255. 1917.

On *Dioscorea alata* L., Porto Rico:—endemic.

17. **Cercospora Caricae** Speg. Anal. Soc. Ci. Argent. **22**: 215. 1886.

See *Pucciniopsis Caricae.*

18. **Cercospora Caseariae** Stevens, Trans. Ill. Acad. Sci. **10**: 212. 1917.

On species of *Casearia*, Porto Rico:—endemic.

19. **Cercospora Cassavae** Ellis & Ev. Bull. Torrey Club **22**: 438. 1895.

On *Manihot Manihot* (L.) Cockerell, Porto Rico:—continental North America.

Thought to be the same as *C. Henningsii* Allesch.

20. **Cercospora Chamaecristae** Ellis & Kellerm. Jour. Myc. **4**: 7. 1888.

On *Herpetica alata* Raf. [*Cassia alata* L.], *Ditremexa occidentalis* (L.) Britton & Rose [*Cassia occidentalis* L.], Porto Rico:—continental North America.

21. **Cercospora citrullina** Cooke in Rav. Fungi Am. *589;* Grevillea **12**: 31. 1883.

On *Citrullus Citrullus* (L.) Karst. [*Citrullus vulgaris* Schrad.], Porto Rico:—continental North America.

22. **Cercospora coffeicola** Berk. & Curt.; Ellis & Ev. Jour. Myc. **4**: 5. 1888.

On *Coffea arabica* L., Porto Rico:—Jamaica; Guatemala.

23. **Cercospora conspicua** Earle, Bull. N. Y. Bot. Garden **3**: 312. 1905.

On *Cleome spinosa* Jacq., Porto Rico:—endemic.

24. **Cercospora cruenta** Sacc. Michelia **2**: 149. 1880.

On *Phaseolus lunatus* L., *Vigna unguiculata* (L.) Walp., Porto Rico:—continental North America.

25. **Cercospora Cucurbitae** Ellis & Ev. Jour. Myc. **4**: 3. 1888.

On *Cucurbita Lagenaria* L.,Porto Rico:—continental North America.

26. **Cercospora cucurbiticola** P. Henn. Hedwigia **43**: 95. 1904.

On *Cayaponia* sp., Porto Rico:—continental South America.

27. **Cercospora densissima** Speg. Anal. Mus. Nac. Buenos Aires **6**: 341. 1899.

On *Sida* sp., Mona Island:—continental South America.

28. **Cercospora flagellaria** Ellis & Martin, Am. Nat. **16**: 1003. 1882.

On *Phytolacca icosandra* L., Porto Rico:—continental North America.

29. **Cercospora Gilbertii** Speg. Anal. Soc. Ci. Argent. **10**: 38. 1880.

On *Iresine Celosia* L. [*Iresine paniculata* (L.) Kuntze], Porto Rico:—continental South America.

30. **Cercospora gossypina** Cooke, Rav. Fungi Am. *585;* Grevillea **12**: 31. 1883.

On *Gossypium barbadense* L., Porto Rico:—continental North America.

31. **Cercospora guanicensis** Young, Mycologia **8**: 45. 1916.

On *Guilandina Crista* (L.) Small [*Caesalpinia Crista* L.], Porto Rico:—endemic.

32. **Cercospora Henningsii** Allesch.; P. Henn. in Engl. Ostafr. Pflanz. **3**: 35. 1895.

On *Manihot Manihot* (L.) Cockerell, Porto Rico:—East Africa.

33. **Cercospora Hibisci** Tracy & Earle, Bull. Torrey Club **22**: 179. 1895.

On *Abelmoschus esculentus* (L.) Moench. [*Hibiscus esculentus* L.], *Pariti tiliaceum* (L.) St. Hil., Porto Rico:—continental North America.

34. **Cercospora Hurae** Stevens, Trans. Ill. Acad. Sci. **10**: 210. 1917.

On *Hura crepitans* L., Porto Rico:—endemic.

35. **Cercospora Hydropiperis** (Thüm.) Speg. Anal. Soc. Ci. Argent. **9**: 191. 1880.

On *Persicaria punctata* (Ellis) Small, Porto Rico:—continental South America.

36. **Cercospora Lepidii** Peck, Ann. Rep. N. Y. State Mus. **35**: 140. 1884.

On *Lepidium virginicum* L., Porto Rico; Mona Island:—continental North America.

37. **Cercospora longipes** Butler, Mem. Dept. Agr. India 1^3: 44. 1906.

On *Saccharum officinarum* L., Porto Rico:—India.

38. **Cercospora longissima** (Cug.) Sacc. Syll. Fung. **18**: 607. 1906.

Cercospora longispora Cug.; Traverso, Malpighia **17**: 217. 1903.
Cercospora Lactucae Stevenson, Jour. Dept. Agr. Porto Rico **1**: 105. 1917.
Cercospora Lactucae Welles, Phytopathology **13**: 289. 1923. Not *Cercospora Lactucae* P. Henn. Bot. Jahr. **31**: 742. 1902.
On *Lactuca sativa* L., Porto Rico:—Italy; Philippine Islands.

39. **Cercospora Malachrae** Heald & Wolf, Mycologia **3**: 19. 1911.
Cercospora Malachrae Young, Mycologia **8**: 45. 1916.
On *Malachra alceifolia* Jacq. [*Malachra rotundifolia* Schrank], Porto Rico:—continental North America.

40. **Cercospora maricaoensis** Young, Mycologia **8**: 44. 1916.
On *Teramnus uncinatus* (L.) Sw., Porto Rico:—endemic.

41. **Cercospora mikaniaecola** Stevens, Trans. Ill. Acad. Sci. **10**: 213. 1917.
On *Mikania* sp., Porto Rico:—endemic.

42. **Cercospora Mucunae** Sydow, Hedwigia **42**: (106). 1903.
On *Stizolobium pruritum* (Wight) Piper, *Mucuna urens* (L.) DC., Porto Rico:—continental North America.

43. **Cercospora Nicotianae** Ellis & Ev. Proc. Acad. Sci. Phila. **1893**: 170. 1893.
On *Nicotiana Tabacum* L., Porto Rico:—continental North America.

44. **Cercospora Oryzae** Miy. Jour. Coll. Agr. Tokyo **2**: 263. 1910.
On *Oryza sativa* L., Porto Rico:—Japan.

45. **Cercospora Pancratii** Ellis & Ev. Jour. Myc. **3**: 15. 1887.
On *Crinum* sp., St. Thomas:—continental North America.

46. **Cercospora personata** (Berk. & Curt.) Ellis, Jour. Myc. **1**: 63. 1885.
Cladosporium personatum Berk. & Curt. Grevillea **3**: 106. 1874.
On *Arachis hypogaea* L., Porto Rico:—continental North America.

47. **Cercospora Pisa-sativae** Stevenson, Ann. Rep. Ins. Exp. Sta. **1917–1918**: 138. 1919.
On *Pisum sativum* L., Porto Rico:—endemic.

48. **Cercospora Phyllitidis** Hume, Bull. Torrey Club **27**: 577. 1900.
On *Polypodium* sp., Porto Rico:—continental North America.

49. **Cercospora portoricensis** Earle, Muhlenbergia **1**: 15. 1901.
On *Piper aduncum* L., *P. scabrum* Sw., *Pothomorphe peltata* (L.) Miq. [*Piper peltatum* L., *P. umbellatum* L.], Porto Rico:—endemic.

50. **Cercospora ricinella** Sacc. & Berl. Atti Ist. Ven. VI. **3**: 11. 1885.
On *Ricinus communis* L., Porto Rico:—continental North America; Australia.

51. **Cercospora rigospora** Atk. Jour. Elisha Mitchell Soc. **8**: 65. 1891.
On *Solanum nigrum* L., Porto Rico:—continental North America.

52. **Cercospora rosicola** Pass. Myc. Univ. *333;* Bot. Jahresb. **1875**: 276.
On species of *Rosa*, Porto Rico:—continental North America; Europe.

53. **Cercospora Sagittariae** Ellis & Kellerm. Jour. Myc. **2**: 1. 1886.
On *Sagittaria lancifolia* L., Porto Rico:—continental North America.

54. **Cercospora Sechiae** Stevenson, Jour. Dept. Agr. Porto Rico **2**: 214. 1918.
On *Sechium edule* (Jacq.) Sw., Porto Rico:—endemic.

55. **Cercospora Sesami** Zimm. Ber. Forstw. Deutsch-Ostafr. **1904**: 28.
On *Sesamum orientale* L., Porto Rico:—East Africa.

56. **Cercospora simulata** Ellis & Ev. Jour. Myc. **1**: 64. 1885.
Cercospora Chamaecristae Ellis & Kellerm., may be the same.
On *Herpetica alata* Raf., Porto Rico:—continental North America.

57. **Cercospora Stevensii** Young, Mycologia **8**: 45. 1916.
On *Andira inermis* H. B. K., Porto Rico:—endemic.

58. **Cercospora Thouiniae** Stevens, Trans. Ill. Acad. Sci. **10**: 213. 1917.
On *Thyana striata* (Radlk.) Britton [*Thouinia striata* Radlk.]. Porto Rico:—endemic.

59. **Cercospora Tiglii** P. Henn. Hedwigia **47**: 265. 1908.
On *Croton lobatus* L., Vieques:—continental South America.

60. **Cercospora trichophila** Stevens, Trans. Ill. Acad. Sci. **10**: 212. 1917.
On *Helicteres jamaicensis* Jacq., *Solanum torvum* Sw., *S. verbascifolium* L., Porto Rico:—endemic.

61. **Cercospora Trichostigmae** Stevens, Trans. Ill. Acad. Sci. **10**: 211. 1917.
On *Trichostigma octandrum* (L.) H. Walt., Porto Rico:—endemic.

62. **Cercospora Vaginae** Kruger; Walker & Went, Meded. Suik. Proefst. West-Java **24**: 8. 1896.
On *Saccharum officinarum* L., Porto Rico:—Java.

63. **Cercospora venturioides** Peck, Ann. Rep. N. Y. State Mus. **34**: 47. 1881.
On *Asclepias curassavica* L., Porto Rico:—continental America.

64. **Cercospora Vignae** Racib. Zeit. Pflanzenkrank. **8**: 66. 1898.
On *Vigna unguiculata* (L.) Walp., Porto Rico:—Java.

65. **Cercospora Violae** Sacc. Nuov. Giorn. Bot. Ital. **8**: 187. 1876.
On *Viola* sp., Porto Rico:—continental North America; Europe.

7. **CERCOSPORIDIUM** Earle, Muhlenbergia **1**: 16. 1901.

1. **Cercosporidium Helleri** Earle, Muhlenbergia **1**: 16. 1901.
On *Sphenoclea zeylanica* Gaertn., Porto Rico:—endemic.

Doubtful Species.

1. Cercosporium beticola.

Reported by Stevenson but perhaps meant for *Cercospora beticola.* Causing root-rot of beans.

2. Cercosporium urticola.

Reported by Cook in Diseases of Tropical Plants but may be same as above.

8. **CLADOSPORIUM** Link in Willd. Sp. Pl. 6^1: 39. 1824.

1. **Cladosporium Calotropidis** Stevens, Trans. Ill. Acad. Sci. **10:** 207. 1917.

On *Calotropis procera* (Ait.) R. Br., Porto Rico:—endemic.

2. **Cladosporium Citri** Massee, Text Book Pl. Dis. 310. 1899.

On species of *Citrus*, Porto Rico:—continental North America.

3. **Cladosporium fulvum** Cooke, Grevillea **12:** 32. 1883.

On *Lycopersicon Lycopersicon* (L.) Karst., *Solanum torvum* Sw., Porto Rico: —continental North America.

4. **Cladosporium guanicensis** Stevens, Trans. Ill. Acad. Sci. **10:** 207. 1917.

On *Argemone mexicana* L., Porto Rico:—endemic.

5. **Cladosporium herbarum** (Pers.) Link, Ges. Nat. Freunde Berlin Mag. **7:** 37. 1815.

Dematium herbarum Pers. Ann. Bot. Usteri **11:** 32. 1794.

On various plants usually on the dead or dying tissues: *Bauhinia* sp., *Canna coccinea* Mill., *C. glauca* L., *Canavali maritima* (Aubl.) Thou. [*Canavalia obtusifolia* P. DC.], *Agati grandiflora* (L.) Desv. [*Sesbania grandiflora* Pers.], *Solanum Melongena* L., Porto Rico:—probably world-wide in distribution.

6. **Cladosporium hypophloeum** Berk. & Curt. Jour. Linn. Soc. **10:** 362. 1868.

On *Thyana* [*Thouinia*] sp., Porto Rico:—Cuba.

7. **Cladosporium Mansoni** (Cast.) Pinoy; Cast. & Chalmers, Manual of Trop. Med. Ed. 2. 837. 1913.

Microsporon Mansoni Castellani——1905.

Occurring as the cause of a human skin disease, black ringworm, Porto Rico:— tropical lands.

8. **Cladosporium Mikaniae** Stevens, Trans. Ill. Acad. Sci. **10:** 208. 1917.

On *Mikania* sp., Porto Rico:—endemic.

9. **ELLISIELLA** Sacc. Michelia **2:** 26. 1880.

1. **Ellisiella portoricensis** Stevens, Trans. Ill. Acad. Sci. **10:** 203. 1917.

On *Clusia rosea* Jacq., Porto Rico:—endemic.

10. **FUMAGO** Pers. Myc. Eu. **1:** 9. 1822.

1. **Fumago vagans** Pers. Myc. Eu. **1:** 9. 1822.

On leaves of *Piper Amalago* L., and *Mangifera indica* L., St. Thomas:— widely distributed.

11. **HAPLOGRAPHIUM** Berk. & Br. Ann. Mag. Nat. Hist. III. **3**: 360. 1859.

1. **Haplographium echinatum** (Riv.) Sacc. Syll. Fung. **4**: 307. 1886.
Penicillium echinatum Riv. Parass. 45. 1873.
Isolated from soil, Porto Rico:—Europe.

2. **Haplographium portoricense** Stevens & Dalbey, Mycologia **11**: 6. 1919.
On *Canna coccinea* Mill., Porto Rico:—endemic.

12. **HELMINTHOSPORIUM** Link, Ges. Nat. Freunde Berlin Mag. **3**: 10. 1809.

1. **Helminthosporium Caladii** Stevens, Trans. Ill. Acad. Sci. **10**: 209. 1917.
On *Cyrtospadix bicolor* (Ait.) Britton & P. Wilson [*Caladium bicolor* Vent.], Porto Rico:—endemic.

2. **Helminthosporium folliculatum brevipilum** Corda, Ic. Fung. **2**: 13. 1838.
On *Paspalum conjugatum* Berg., Porto Rico:—Europe.

3. **Helminthosporium glabroides** Stevens, Bot. Gaz. **65**: 240. 1918.
On species of *Meliola* on numerous hosts, Porto Rico:—endemic.

4. **Helminthosporium Gossypii** Tucker, Jour. Agr. Res. **32**: 394. 1926.
Causing a leaf spot on Sea Island Cotton, Porto Rico:—endemic.

5. **Helminthosporium guareicolum** Stevens, Bot. Gaz. **65**: 241. 1918.
On *Meliola guareicola* Stevens, Porto Rico:—endemic.

6. **Helminthosporium Helleri** Stevens, Bot. Gaz. **65**: 242. 1918.
On species of *Meliola* on various hosts, Porto Rico:—endemic.

7. **Helminthosporium mayaguezense** Miles, Trans. Ill. Acad. Sci. **10**: 253. 1917.
On *Paspalum conjugatum* Berg., Porto Rico:—endemic.

8. **Helminthosporium melastomacearum** Stevens, Bot. Gaz. **65**: 242. 1918.
On species of *Meliola* on various hosts, Porto Rico:—endemic.

9. **Helminthosporium Ocoteae** Stevens, Bot. Gaz. **65**: 241. 1918.
On *Meliola Ocoteae* Stevens on *Ocotea leucoxylon* (Sw.) Mez., Porto Rico:—endemic.

10. **Helminthosporium Oryzae** Breda de Haan, Bull. Inst. Bot. Buitenz. **6**: 11. 1900.
On *Oryza sativa* L., Porto Rico:—Java.

11. **Helminthosporium Panici** Stevens, Bot. Gaz. **65**: 242. 1918.
On *Meliola Panici* Earle and other species of *Meliola* on various hosts, Porto Rico:—endemic.

12. **Helminthosporium parathesicolum** Stevens, Bot. Gaz. **65**: 242. 1918.

On species of *Meliola* on *Parathesis* and other hosts, Porto Rico:—endemic.

13. **Helminthosporium Philodendri** Stevens, Bot. Gaz. **65**: 242. 1918.

On *Meliola Helleri* Earle on various hosts, Porto Rico:—endemic.

14. **Helminthosporium Ravenelii** Curt.; Berk. Grevillea **3**: 102. 1874.

On *Sporobolus indicus* (L.) R. Br., Porto Rico:—Cuba; Bermuda; continental North America.

15. **Helminthosporium Sacchari** Butler, Mem. Dept. Agr. India, Bot. Series **6**: 204. 1913.

On *Saccharum officinarum* L., Porto Rico:—India.

Cercospora Sacchari Br. de Haan is thought by Butler to be a *Helminthosporium* and may be identical with the above. This fungus is the cause of a disease known as "eye-spot."

16. **Helminthosporium sechicola** Stevenson, Jour. Dept. Agr. Porto Rico **2**: 216. 1918.

On *Sechium edule* (Jacq.) Sw., Porto Rico:—endemic.

17. **Helminthosporium spiculiferum** Ellis & Ev. Jour. Myc. **2**: 104. 1886.

On *Thrinax* sp., Porto Rico:—continental North America.

18. **Helminthosporium Stahlii** Stevens, Trans. Ill. Acad. Sci. **10**: 208. 1917.

On *Passiflora foetida* L., Porto Rico:—endemic.

19. **Helminthosporium Turcicum** Pass. Boll. Comz. Agr. Parmense **10**: 2. 1876.

On *Zea Mays* L., Porto Rico:—Europe.

20. **Helminthosporium Varroniae** Stevens, Trans. Ill. Acad. Sci. **10**: 209. 1917.

On *Varronia* sp., Porto Rico:—endemic.

13. **HETEROSPORIUM** Klotsch; Cooke, Grevillea **5**: 122. 1877.

1. **Heterosporium repandum** Ferd. & Winge, Bot. Tidssk. **29**: 23. 1908.

On dry branches, St. Thomas:—endemic.

14. **HORMIACTELLA** Sacc. Syll. Fung. **4**: 311. 1886.

1. **Hormiactella Sacchari** Johnston, Jour. Dept. Agr. Porto Rico **1**: 224. 1917.

On dead leaves of *Saccharum officinarum* L., and other grasses, Porto Rico:—endemic.

15. **ISTHMOSPORA** Stevens, Bot. Gaz. **65**: 244. 1918.

1. **Isthmospora glabra** Stevens, Bot. Gaz. **65**: 244. 1918.

On species of *Meliola*, Porto Rico:—endemic.

2. **Isthmospora spinosa** Stevens, Bot. Gaz. **65**: 244. 1918.
On species of *Meliola* on various hosts, Porto Rico:—endemic.

16. **MACROSPORIUM** Fries, Syst. Myc. **3**: 373. 1829.

1. **Macrosporium Carotae** Ellis & Langlois, Jour. Myc. **6**: 36. 1890.
On cultivated carrots, Porto Rico:—continental America.

2. **Macrosporium parasiticum** Thüm. Myc. Univ. *667*. 1877.
On *Allium Cepa* L., Porto Rico:—Bermuda; continental America.

3. **Macrosporium Porri** Ellis, Grevillea **8**: 12. 1879.
On *Allium Cepa* L., Porto Rico:—continental North America.

17. **MICROCLAVA** Stevens, Trans. Ill. Acad. Sci. **10**: 204. 1917.

1. **Microclava Coccolobae** Stevens, Trans. Ill. Acad. Sci. **10**: 206. 1917.
On *Coccolobis diversifolia* Jacq., Porto Rico:—endemic.

2. **Microclava Miconiae** Stevens, Trans. Ill. Acad. Sci. **10**: 206. 1917.
On *Miconia laevigata* (L.) DC., Porto Rico:—endemic.

18. **NAPICLADIUM** Thüm. Hedwigia **14**: 3. 1875.

1. **Napicladium Fumago** Speg. Rev. Agr. Univ. La Plata II. **6**: 190. 1910.
On *Miconia* sp., Porto Rico:—continental North America.

2. **Napicladium portoricense** Speg. Bol. Acad. Ci. Cordoba **26**: 363. 1923.
On mycelium of Perisporiaceae on many hosts, Porto Rico:—endemic.

19. **PASSALORA** Fries, Summa Veg. Scand. 500. 1849.

1. **Passalora Cecropiae** Stevens, Trans. Ill. Acad. Sci. **10**: 207. 1917.
On *Cecropia peltata* L., Porto Rico:—endemic.

20. **PERICONIA** Tode, Fungi Meckl. **2**: 2. 1791.

1. **Periconia atra** Corda, Ic. Fung. **1**: 19. 1837.
On *Saccharum officinarum* L., St. Croix:—Europe.

2. **Periconia pycnospora** Fres. Beitr. Myk. 20. 1850.
On *Xanthosoma* sp., Porto Rico:—Europe.

3. **Periconia Sacchari** Johnston, Jour. Dept. Agr. Porto Rico **1**: 225. 1917.
On dead and dying leaves and stalks of *Saccharum officinarum* L., Porto Rico:—endemic.

21. **SEPTOIDIUM** Arnaud, Ann. Ephiphyties **7**: 106. 1921.

1. **Septoidium Stevensii** Arnaud, Ann. Ephiphyties **93**: 35. 1923.
On *Inga laurina* (Sw.) Willd., Porto Rico:—endemic.

22. **SEPTONEMA** Corda, Ic. Fung. **1:** 9. 1837.

1. **Septonema Sacchari** Johnst. & Stevenson, Jour. Dept. Agr. Porto Rico **1:** 225. 1917.

On dead leaves and stalks of *Saccharum officinarum* L., Porto Rico:—endemic.

23. **TETRACOCCOSPORIUM** Szabó, Hedwigia **44:** 77. 1905.

1. **Tetracoccosporium Sacchari** Stevenson, Jour. Dept. Agr. Porto Rico **1:** 225. 1917.

On sugar cane debris, Porto Rico:—endemic.

24. **TETRAPLOA** Berk. & Br. Ann. Mag. Nat. Hist. II. **5:** 459. 1850.

1. **Tetraploa aristata** Berk. & Br. Ann. Mag. Nat. Hist. II. **5:** 459. 1850.

On dead stalks and leaves of *Saccharum officinarum* L., Porto Rico:—Cuba; Europe.

25. **THIELAVIOPSIS** Went., Med. Proefst. West-Java 5:—1893.

1. **Thielaviopsis paradoxa** (De Seynes) Höhn. Hedwigia **43:** 295. 1904.

Chalara paradoxa De Seynes, Roch. Veg. Inf. **3:** 30. 1886.

On *Ananas Ananas* (L.) Cockerell [*Ananas sativus* Schult. (fruit)], *Cocos nucifera* L., *Saccharum officinarum* L., Porto Rico:—Europe.
Common in Porto Rico and causing much damage.

26. **TRIPSOSPORIUM** Corda, Ic. Fung. **1:** 16. 1837.

1. **Triposporium stelligerum** Speg. Rev. Agr. Univ. La Plata **6:** 196. 910.

On *Annona montana* Macf., *Chiococca alba* (L.) Hitchc., *Myrcia deflexa* (Poir) DC., *Canella Winterana* (L.) Gaertn., *Zamia latifoliata* Pren. Erroneously reported as *Z. integrifolia* Ait., Porto Rico:—continental South America.

27. **VERTICICLADIUM** Preuss, Linnaea **24:** 127. 1851.

1. **Verticicladium graminicolum** Johnst. & Stevenson, Jour. Dept. Agr. Porto Rico **1:** 226. 1917.

On dead leaves of *Saccharum officinarum* L., Porto Rico:—endemic.

28. **ZYGOSPORIUM** Mont. Pl. Cell. Cuba 303. 1838.

1. **Zygosporium oschiodes** Mont. Pl. Cell. Cuba 303. (1838?).

On *Carica Papaya* L., Porto Rico:—Cuba; Ceylon; Island of Tahiti.

Family 3. **STILBACEAE.**

1. **ARTHROBOTRYUM** Ces.; Berk. & Br. Ann. Mag. Nat. Hist. III. **3:** 361. 1859.

1. **Arthrobotryum caudatum** Sydow, Ann. Mus. Congo **3:** 22. 1909.

On *Meliola* on various hosts, Porto Rico:—South Africa.

2. **Arthrobotryum Dieffenbachiae** Stevens, Bot. Gaz. **65:** 237. 1918.

On *Meliola Dieffenbachiae* Stevens on *Dieffenbachia seguine* (Jacq.) Schott, Porto Rico:—endemic.

3. **Arthrobotryum glabroides** Stevens, Bot. Gaz. **65**: 237. 1918.

On *Meliola glabroides* Stevens on *Nectandra patens* (Sw.) Griseb., Porto Rico:—endemic.

4. **Arthrobotryum penicillatum** (Lév.) comb. nov.

Meliola ? penicillata Lév. Ann. Sci. Nat. III. **5**: 266. 1846.
Podosporium penicillium Speg. Bol. Acad. Ci. Cordoba **11**: 638. 1889.
Arthrobotryum penicillium Stevens, Bot. Gaz. **65**: 238. 1918.

On *Meliola Panici* Earle on various grasses, Porto Rico:—continental South America.

2. **DENDROGRAPHIUM** Massee, Grevillea **21**: 5. 1892.

1. **Dendrographium atrum** Massee, Grevillea **21**: 5. 1892.

On dead wood, Porto Rico:—continental South America.

3. **GIBELLULA** Cavara, Atti Ist. Bot. Univ. Pavia **3**: 347. 1894.

1. **Gibellula arachnophila** Johnston, Comm. Agr. Ins. Exp. Sta. Porto Rico, Bull. **10**: 24. 1915.

On spiders of family Attidae, Porto Rico:—endemic.

4. **HIRSUTELLA** Pat. Rev. Myc. **14**: 69. 1892.

1. **Hirsutella citriformis** Speare, Mycologia **12**: 70. 1920.

Reported on Fulgoridae, Porto Rico:—New Zealand; Hawaii.

5. **GRAPHIUM** Corda, Ic. Fung. **1**: 18. 1837.

1. **Graphium Sacchari** Speg. Rev. Agr. Univ. La Plata **1896**: 253.

On dead stalks of *Saccharum officinarum* L., Porto Rico:—continental South America.

2. **Graphium squarrosum** Ellis & Langl. Jour. Myc. **6**: 36. 1890.

On dead bamboo (*Bambos*), Porto Rico:—continental North America.

6. **ISARIA** Pers. Tent. Disp. Fung. 41. 1797.

1. **Isaria Barberi** Giard. Compt. Rend. Soc. Biol. Paris **1894**: 823.

On larvae of *Diatraea saccharalis*, Porto Rico:—West Indies.

2. **Isaria Saussurei** Cooke, Veget. Wasps 53. 1892.

On *Botriocera* sp. on *Palicourea crocea* (Sw.) R. & S., Porto Rico:—West Indies.

3. **Isaria umbrina** Pers. Ann. Bot. Usteri **15**: 12. 1795.

On dead wood, Porto Rico:—Europe.

7. **ISARIOPSIS** Fries; Sacc. Michelia **2**: 33. 1880.

1. **Isariopsis griseola** Sacc. Myc. Ven. *1247;* Michelia **1**: 273. 1878.

On species of *Phaseolus*, Porto Rico:—Europe.

8. **PODOSPORIUM** Schw. Trans. Am. Phil. Soc. II. **4**: 278. 1832.

1. Podosporium effusum Pat. sp. nov.

Hyphae loosely fasciculate, subeffused, tobacco-brown, septate, crisped, 75–100 × 3 μ; conidia oblong or clavate, 12–30 × 3 μ, becoming 3-septate, not constricted. The longer ones are substipitate-contracted below, the shorter ones simply oblong.

The hyphae form patches 1–3 mm. diam. irregularly scattered over the upper surface of the leaf.

On leaves of *Piper* sp. near Rio Piedras, *Heller 142*.

2. Podosporium pallidum Pat. sp. nov.

Hyphae pale yellow, closely concrescent-fasciculate, forming a stilboid stipe ¼–½ mm. high and about 40 μ thick, the fibers slightly relaxed above; conidia fusoid, faintly nucleolate-septulate, pale yellowish, 25–30 × 4–5 μ.

On *Meliola amphitricha* Fries, on *Randia mitis* L. near Santurce.

3. Podosporium ? penicillium Speg. Bol. Acad. Ci. Cordoba **11**: 618. 1889.

On *Meliola* on species of *Psychotria grandis* Sw. and *Panicum glutinosum* Sw., Porto Rico:—continental South America.

9. **STILBELLA** Lindau in E. & P. Nat. Pfl. 1^2: 489. 1900.

1. Stilbella flavida (Cooke) P. Henn. Bol. Mus. Goeldi **4**: 413. 1904.

Stilbum flavidum Cooke, Grevillea **9**: 11. 1880.

On various species of *Coffea* and a large variety of other hosts, Porto Rico:—Trinidad; Jamaica; continental America.

10. **STILBUM** Tode, Fungi Meckl. **1**: 10. 1790.

1. Stilbum Heveae (A. Zimm.) Sacc. & P. Sacc. Bull. Inst. Buitz. **1901**: 21.

Stilbella Heveae Zimm.; P. Henn. Hedwigia **41**: 148. 1902.

On stumps of wood, St. Thomas:—Java.

2. Stilbum Karstenii Sacc. Syll. Fung. **10**: 682. 1892.

Stilbum nigripes Karst. Hedwigia **28**: 195. 1889.

Associated with *Sphaerostilbe intermedia* Ferd. & Winge, St. Jan; St. Thomas:—continental South America.

Family 4. **TUBERCULARIACEAE.**

1. **AEGERITA** Pers. Tent. Disp. Fung. 40. 1797.

1. Aegerita Webberi Fawcett, Mycologia **2**: 167. 1910.

On *Aleurodiscus minimus* on *Psidium Guajava* L., Porto Rico:—continental North America.

2. **CLINOCONIDIUM** Pat. Bull. Soc. Myc. Fr. **14**: 156. 1898.

1. Clinoconidium farinosa (P. Henn.) Pat. Bull. Soc. Myc. Fr. **14**: 156. 1898.

See *Uredo farinosa*.

3. **EPICOCCUM** Link, Ges. Nat. Freunde Berlin Mag. **7**: 32. 1815.

1. Epicoccum neglectum Desm. Ann. Sci. Nat. II. **17**: 95. 1842.

On *Cestrum* sp., Porto Rico:—Europe; continental North America.

4. **EXOSPORIUM** Link, Ges. Nat. Freunde Berlin Mag. **3**: 9. 1809.

1. **Exosporium Leucaenae** Stevens & Dalbey, Mycologia **11**: 5. 1919.

On *Leucaena glauca* (L.) Benth., Porto Rico:—endemic.

5. **FUSARIUM** Link, Ges. Nat. Freunde Berlin Mag. **3**: 10. 1809.

1. **Fusarium cubense** Er. Smith, Science II. **31**: 755. 1910.

On *Musa paradisiaca* L., Porto Rico:—Cuba.
Causing a serious trunk rot.

2. **Fusarium Limonis** Bri. Att. Staz. Chim. Agr. Roma 485. 1876.

On *Citrus grandis* Osbeck [*Citrus decumana* L.], Porto Rico:—Europe.

3. **Fusarium meliolicolum** Stevens, Bot. Gaz. **65**: 244. 1918.

On *Meliola Paulliniae* Stevens, Porto Rico:—endemic.

4. **Fusarium radicicola** Wollenw. Jour. Agr. Res. **2**: 257. 1914.

On *Musa sapientum* L., Porto Rico:—Europe; continental North America.

5. **Fusarium Solani** (Mart.) Sacc. Michelia **2**: 296. 1881.

Fusisporium Solani Martius, Flora **26**: 546. 1843.

On *Vanilla Vanilla* (L.) Britton [*Vanilla planifolia* Andr.], Porto Rico:—Europe; continental North America.

6. **ILLOSPORIUM** Martius, Fl. Crypt. Erl. 325. 1817.

1. **Illosporium Commelinae** Stevens, Trans. Ill. Acad. Sci. **10**: 215. 1917.

On *Commelina longicaulis, C. elegans* H. B. K., Porto Rico:—endemic.

7. **MICROCERA** Desm. Ann. Sci. Nat. III. **10**: 359. 1848.

1. **Microcera Fujikuroi** Miyabe & Saw. Jour. Coll. Agr. Tohoku Imp. Univ. **5**: 83. 1913.

On scale insects on species of *Citrus*, Porto Rico:—continental North America.

8. **MUCHMORIA** Sacc. Ann. Myc. **4**: 277. 1906.

1. **Muchmoria portoricensis** Sacc. Ann. Myc. **4**: 277. 1906.

In cracks of the bark of an undetermined tree, Porto Rico:—endemic.

9. **MYROTHECIUM** Tode, Fungi Meckl. **1**: 25. 1790.

1. **Myrothecium verrucaria** (Albert. & Schw.) Ditm. in Sturm, Deuts. Fl. Pilze **1**: 7. 1813.

Peziza verrucaria Albert. & Schw. Consp. Fung. 340. 1805.

On dead leaves of *Saccharum officinarum* L., and dead twigs of *Citrus* sp., Porto Rico:—Europe; continental North America.

10. **PUCCINIOPSIS** Speg. Anal. Soc. Ci. Argent. **26**: 74. 1888.

1. **Pucciniopsis Caricae** (Speg.) Seaver, comb. nov.

Cercospora ? Caricae Speg. Anal. Soc. Ci. Argent. **22**: 205. 1886.
Pucciniopsis Caricae Earle, Bull. N. Y. Bot. Garden **2**: 340. 1902.

On *Carica Papaya* L., Porto Rico:—St. Thomas; Sanibel Island, Florida.

11. **SPEGAZZINIA** Michelia **2**: 37. 1880.

1. **Spegazzinia ornata** Sacc. Michelia **2**: 37. 1880.
On dead sugar cane and other plant debris, Porto Rico:—Europe.

12. **TRICHOSTROMA** Corda in Sturm, Deuts. Fl. Pilze **9**: 131. 1829.

1. **Trichostroma Axonopi** Tehon, Bot. Gaz. **67**: 510. 1919.
On *Axonopus compressus* (Sw.) Beauv., Porto Rico:—endemic.

13. **TUBERCULARIA** Tode, Fungi Meckl. **1**: 18. 1790.

1. **Tubercularia coccicola** Stevenson, Ann. Rep. Ins. Exp. Sta. 1916–1917: 92.
On scale insects on *Citrus* sp., Porto Rico:—endemic.

2. **Tubercularia sacchariсola** Speg. Rev. Agr. Univ. La Plata **1896**: 254.
On dead sugar cane stalks, Porto Rico:—continental South America.

3. **Tuberculina persicina** (Ditm.) Sacc. Fungi Ital. *f. 964*. 1881.
Tubercularia persicina Ditm. in Sturm, Deuts. Fl. Pilze **1**: 99. 1817.
On *Puccinia Rauliaerii* Ferd. & Winge, St. Thomas:—Europe.

Sterile Mycelium.

1. **HIMANTIA** Pers. Myc. Eu. **1**: 88. 1822.

1. **Himantia stellifera** Johnston, Jour. Dept. Agr. Porto Rico **1**: 188. 1917.
On various grasses and sedges, Porto Rico:—endemic.

2. **OZONIUM** Pers. Myc. Eu. **1**: 86. 1822.

1. **Ozonium stuposum** Pers. Myc. Eu. **1**: 87. 1822.
Dematium stuposum Pers. Syn. Fung. 696. 1801.
Reported from the Schwanecke collection for Porto Rico:—Europe.

3. **RHIZOCTONIA** DC. Fl. Fr. **6**: 110. 1815.

1. **Rhizoctonia alba** Matz, Jour. Dept. Agr. Porto Rico **5**: 29. 1921.
On decaying leaves of celery, Porto Rico:—endemic.

2. **Rhizoctonia dimorpha** Matz, Jour. Dept. Agr. Porto Rico **5**: 20. 1921.
On cowpea and *Phaseolus* sp., Porto Rico:—endemic.

3. **Rhizoctonia ferrugena** Matz, Jour. Dept. Agr. Porto Rico **5**: 28. 1921.
On sugar cane roots, Porto Rico:—endemic.

4. **Rhizoctonia grisea** (Stevenson) Matz, Jour. Dept. Agr. Porto Rico **5**: 22. 1921.
Sclerotium griseum Stevenson, Jour. Dept. Agr. Porto Rico **2**: 220. 1918.
On *Musa paradisiaca* L., *Saccharum officinarum* L., and *Zea Mays* L., Porto Rico:—endemic.

5. **Rhizoctonia macrosclerotia** Matz, Jour. Dept. Agr. Porto Rico **5**: 19. 1921.

On petioles and stems of *Phaseolus* sp., Porto Rico:—endemic.

6. **Rhizoctonia Melongena** Matz, Jour. Dept. Agr. Porto Rico **5**: 29. 1921.

On decaying egg plant, Porto Rico:—endemic.

7. **Rhizoctonia microsclerotia** Matz, Phytopathology **7**: 117. 1917.

On cowpea, carrot, bean and hollyhock, Porto Rico:—continental North America.

8. **Rhizoctonia palida** Matz, Jour. Dept. Agr. Porto Rico **5**: 28. 1921.

On cane roots, pepper roots and young corn seedlings, Porto Rico:—endemic.

9. **Rhizoctonia Solani** Kuhn, Krankh. Kulturg. 224. 1858.

On bean pods, grapefruit seedlings, celery, tomato stems, lettuce leaves, sugar cane roots, banana roots, peas and various other garden plants, Porto Rico:—Europe.

4. **SCLEROTIUM** Tode, Fungi. Meckl. **1**: 2. 1790.

1. **Sclerotium bataticola** Taub. Phytopathology **3**: 71. 1913.

On *Ipomoea Batatas* (L.) Lam., Porto Rico:—continental North America. Causing charcoal rot.

2. **Sclerotium griseum** Stevenson, Jour. Dept. Agr. Porto Rico **2**: 220. 1918.

See *Rhizoctonia griseum.*

3. **Sclerotium portoricense** Stevens, Trans. Ill. Acad. Sci. **10**: 215. 1917.

On *Capriola Dactylon* (L.) Pers., Porto Rico:—endemic.

4. **Sclerotium Rolfsii** Sacc. Ann. Myc. **9**: 257. 1911.

On various hosts especially on herbaceous plants, Porto Rico:—continental North America.

Specimen reported by Stevens as *Claviceps Paspali* is known only from the sclerotial stage and may be the above species.

5. **Sclerotium vulgatum** Fries, Obs. Myc. **1**: 204. 1815.

On human excrement, St. Thomas:—Europe.

FUNGI OF UNKNOWN AFFINITY.

1. **GRAPHIOLA** Poit. Ann. Sci. Nat. I. **3**: 473. 1824.

1. **Graphiola congesta** Berk. & Rav.; Berk. Grevillea **3**: 58. 1874.

On unknown host, Porto Rico:—continental North America.

2. **Graphiola Phoenicis** (Moug.) Poit. Ann. Sci. Nat. I. **3**: 473. 1824.
Phacidium Phoenicis Moug.; Fries, Syst. Myc. **2**: 572. 1823.

On *Sabal causiarum* (Cook) Beccari [*Inodes causiarum* Cook], *Phoenix dactilifera* L., and *Thrinax microcarpa* Sargent [*Thrinax praeceps* Cook], Porto Rico:—continental North America; Europe; Africa; Ceylon.

2. **GRALLOMYCES** Stevens, Bot. Gaz. **65**: 245. 1918.

1. **Grallomyces portoricensis** Stevens, Bot. Gaz. **65**: 245. 1918.

On various hosts associated with *Meliola*, Porto Rico:—endemic.

Sub-class 4. **HEMIBASIDIOMYCETES.**

By F. D. Kern and H. H. Whetzel.

Order 1. **USTILAGINALES.**

Parasitic fungi on various organs of herbaceous flowering plants. Mycelium localized or systemic; hyphae hyaline, branched, more or less septate, intercellular. Fertile mycelium compacting into masses or sori, forming chlamydospores of various types from the internal contents of the cells; in a few cases developing external conidia; at maturity disappearing more or less through gelatinization. Sori usually evident forming mostly brown or black, dusty or agglutinated spore masses. Chlamydospores light to dark colored 4–35 μ in diameter unicellular or composed of 2 to several cells; in some genera forming spore balls. Germination by promycelium usually bearing sporidia (basidiospores) of some type which often multiply by budding.

Promycelium usually with lateral sporidia at septa. Fam. 1. Ustilaginaceae.
Promycelium with clustered terminal sporidia. Fam. 2. Tilletiaceae.

Family 1. **USTILAGINACEAE.**

Sori usually forming dusty or agglutinated spore masses; commonly brown or black. Promycelium bearing lateral sporidia or none.

1. **USTILAGO** (Pers.) Roussel, Fl. Calvados ed. 2. 47. 1806.

Sori at maturity consisting of dusty usually dark colored spore masses. Spores single; small to medium in size; reddish, olivaceous, black-brown, golden-brown, yellow or violet to purple.

1. **Ustilago affinis** Ellis & Ev.; Cockerell, Bull. Torrey Club **20:** 297. 1893.

Ustilago Hilariae P. Henn. Hedwigia **37:** 267. 1898.
Ustilago Stenotaphri P. Henn. Hedwigia **37:** 293. 1898. Not *U. Stenotaphri* of McAlpine.
Ustilago americana Speg. Anal. Mus. Nac. Buenos Aires **6:** 207. 1899.
Ustilago Henningsii Sacc. & Syd. in Sacc. Syll. Fung. **16:** 368. 1902.

On *Stenotaphrum secundatum* (Walt.) Kuntze.
One of the commonest smuts in Porto Rico and Vieques:—Bermuda, Jamaica, and Mexico.

2. **Ustilago Schröteriana** (?) P. Henn. Hedwigia **35:** 215–216. 1896.

On *Paspalum* sp. Johnston *N. Y. Bot. Gard. (4)641.*
This species is listed by Stevenson (Jour. Dept. Agr. Porto Rico **2:** 162, 1918) as *Sphacelotheca Paspali-notati.* The specimen (Johnston *4641*) on which he presumably founded his record is clearly not to be referred to that species and is probably *U. Schröteriana* as pointed out in the article by Whetzel and Kern (Mycologia **18:** 117. 1926).
The single specimen above recorded is known from Porto Rico:—type from Brazil.

Ustilago segetum Dittm.

A smut is listed under this name by Klotzsch (Linnaea **25:** 364–366. 1852) from Schwanecke's Porto Rican collections. No host is given. As this is an old name applied collectively to the smuts of cereals it is impossible to determine just what species he had. His specimen has not been seen.

3. **Ustilago Tritici** (Pers.) Rostr. Overs. K. Danske Vid. Selsk. Forh. **1890**: 15. March 1890.

Uredo segetum Tritici Pers. Tent. Disp. Fung. 57. 1797.
Ustilago segetum Tritici Jens. Om Korns. Brand 61. 1888.
Ustilago Tritici Jens.; Kellerm. & Swing. Ann. Rept. Kansas Agr. Exp. Sta. **2**: 262. June 1890.
Ustilago Tritici f. folicola P. Henn. Zeitschr. Pflanzenkr. **4**: 139. 1894.

On *Triticum aestivum* L. (*T. vulgare* Vill.).

But one collection of this smut is known to the writers from Porto Rico, that by C. M. Tucker, his number *300* (= Cornell Univ. Herb. No. *14936*). Common in all temperate regions where wheat is grown.

4. **Ustilago Zeae** (Beckm.) Unger. Einfl. Bodens. 211. 1836.

Lycoperdon Zeae Beckm. Hannov. Mag. **6**: 1330. 1768.
Ustilago Maydis Corda, Ic. Fung. **5**: 3. 1842.
Ustilago Zeae-Mays Wint. Rab. Krypt. Fl. 1^1: 97. 1881.

On *Zea Mays* L.

Recorded by Clinton from Porto Rico but not represented in his 1904 collection. Reported also by Stevens and Stevenson. There is also a specimen in the collection of C. M. Tucker, his No. *301*.

Apparently not common in Porto Rico:—occurring wherever maize is grown.

2. **SPHACELOTHECA** DeBary, Verg. Morph. Biol. Pilze 187. 1884.

Sori usually in the inflorescence, often limited to the ovary, covered by a false membrane and having a central columella in the dusty spore mass. Spores single; reddish-brown, small to medium.

1. **Sphacelotheca Panici-leucophaei** (Bref.) Clinton, N. Am. Fl. **7**: 28. 1906.

Ustilago Panici-leucophaei Bref. Unters. Gesammt. Myk. **12**: 114. 1895.
Ustilago insularis P. Henn. Hedwigia **35**: 51. 1896.

On *Valota insularis* (L.) Chase.

The entire inflorescence is converted into a dull brown dusty mass as it emerges from the upper leaf sheath. A very common smut in Porto Rico and Vieques:—Cuba, Jamaica, Central and South America, Mexico, and Arizona.

Sphacelotheca Paspali-notati (P. Henn.) Clinton.

See *Ustilago Schröteriana* P. Henn.

2. **Sphacelotheca Sorghi** (Link) Clinton, Jour. Myc. **8**: 140. 1902.

Sorosporium Sorghi Link, in Willd. Sp. Pl. 6^2: 86. 1825.
Tilletia Sorghi-vulgaris Tul. Ann. Sci. Nat. III. **7**: 116. 1847.
Ustilago Sorghi Pass.; Thüm. Hedwigia **12**: 114. 1873.
Ustilago Tulasnei Kühn, Ber. Sitz. Nat. Ges. Halle **1874**: 5. 1874.
Cintractia Sorghi-vulgaris Clinton, Bull. Ill. Agr. Exp. Sta. 47: 404. 1897.

On *Holcus Sorghum* L. (*Sorghum vulgare* Pers.).

A single collection by C. M. Tucker, his No. *258*, (= Cornell Univ. Herb. No. *12638*) is known to the writers from Porto Rico:—Cuba, Jamaica, Canada, United States, Europe, Asia, and Africa.

3. **CINTRACTIA** Cornu, Ann. Sci. Nat. VI. **15**: 279. 1883.

Sori on various organs of the host, often in the ovaries, consisting of a black rather firm agglutinated spore mass; spores single, medium to large, formed about a central columella.

1. **Cintractia axicola** (Berk.) Cornu, Ann. Sci. Nat. VI. **15**: 279. 1883.

Ustilago axicola Berk. Ann. Mag. Nat. Hist. II. **9**: 200. 1852.
Ustilago Fimbristylis Thüm. Bull. Torrey Club **6**: 95. 1876.

On *Fimbristylis diphylla* (Retz.) Vahl.
Fimbristylis ferruginea (L.) Vahl.

Very common in Porto Rico; also recorded from St. Thomas and Tortola:—southern U. S., Mexico, Central America, Cuba, Jamaica, Santo Domingo, and St. Kitts.

2. **Cintractia leucoderma** (Berk.) P. Henn. Hedwigia **34**: 335. 1895.

Ustilago leucoderma Berk. Ann. Mag. Nat. Hist. II. **9**: 200. 1852.
Cintractia Krugiana P. Magn. Bot. Jahrb. **17**: 490. 1893.
Cintractia affinis Peck, N. Y. State Mus. Bull. **67**: 28. 1903.

On *Rynchospora corymbosa* (L.) Britton.
Rynchospora cyperoides (Sw.) Mart.
Rynchospora gigantea Link.

Known by the long white covered sori which involve the pedicels and peduncles of the inflorescence.

Locally very abundant in Porto Rico on *R. corymbosa*, especially along streams about San Juan. Often occurring along with *C. utriculicola* on this host:—Florida, New York, Isle of Pines, Cuba, Santo Domingo, Mexico, Central America, South America, Asia, and Australia.

3. **Cintractia limitata** Clinton, Proc. Boston Soc. Nat. Hist. **31**: 399. 1904.

On *Cyperus ligularis* L. (*Mariscus ligularis* Urban).

Apparently common. Known only from Porto Rico, Mayaguez, Manati Santurce, Boqueron and San Juan being the stations recorded.

4. **Cintractia minor** Jackson, Mycologia **12**: 153. 1920.

Cintractia axicola minor Clinton, Jour. Myc. **8**: 143. 1902.

On *Cyperus sphacelatus* Rottb.

This appears to be a rather uncommon species in Porto Rico. The only other places from which it is reported are New York, New Jersey and Delaware where it occurs on *Cyperus Grayi* (Jackson, Mycologia **12**: 153).

5. **Cintractia utriculicola** (P. Henn.) Clinton, Jour. Myc. **8**: 143. 1902.

Cintractia leucoderma f. utriculicola P. Henn. Hedwigia **34**: 336. 1895.
Cintractia axicola f. spicularum Juel. Bih. Sv. Vet.-Akad. Handl. **23 (3)**[10]: 7. 1897.

On *Rynchospora corymbosa* (L.) Britton (*Rynchospora aurea* Vahl).

Occurring frequently along with *C. leucoderma* on this host. Apparently not common in Porto Rico:—Mexico, Trinidad, and South America.

4. **MYKOSYRINX** G. Beck, Ann. Nat. Hofmus. Wien **9**: 123. 1894.

Sori inside pedicels and peduncles of the inflorescence forming a double layered fertile stroma lining these organs; spore mass dusty; spores in pairs.

1. **Mykosyrinx Cissi** (DC.) G. Beck, Ann. Nat. Hofmus. Wien **9**: 123. 1894.

Uredo Cissi DC. in Poir. Encycl. Meth. Bot. **8**: 228. 1808.
Geminella exotica Schröt. Hedwigia **15**: 135. 1876.
Schroeteria Cissi De-Toni, in Sacc. Syll. Fung. **7**: 501. 1888.

On *Cissus erosa* L. C. Rich.
Cissus sicyoides L.
Cissus trifoliata L. (*C. acida* L.).

Apparently once common in Porto Rico. Not found in recent collections:—Florida, Mexico, Cuba, Bahamas, Isle of Pines, Jamaica, Santo Domingo, Trinidad, Central America, South America, and Africa.

5. **THECAPHORA** Fingerh. Linnaea **10**: 230. 1835.

Sori in various organs of the host, forming indefinite masses in the floral organs or firm galls on the stems and leaves; spore mass at maturity dusty; spore balls of few to many fertile cells, permanently united, spores yellowish or reddish.

1. **Thecaphora pustulata** Clinton; Chardon, Revista Agr. Puerto Rico **6**[4]: 23. 1921.

On *Bidens pilosa* L. (*B. leucantha* Willd.).

Causing soft gall-like swellings of various sizes up to an inch in diameter on stems, leaves and petioles.

Frequent throughout Porto Rico:—Not known elsewhere.

6. **TOLYPOSPORELLA** Atk. Cornell Univ. Agr. Exp. Sta. Bull. **3**[1]: 16. 1897.

Sori usually on the leaves forming a black granular agglutinated coating; spore balls variable; spores dark colored, with a very thick often sac-like epispore.

1. **Tolyposporella Brunkii** (Ellis & Gall.) Clinton, Jour. Myc. **8**: 147. 1902.

Ustilago (*Sorosporium* ?) *Brunkii* Ellis & Gall. Jour. Myc. **6**: 31. 1890.

Ustilago apiculata Ellis & Gall.; Jennings, Texas Agr. Exp. Sta. Bull. **9**: 29. 1890.

On *Andropogon bicornis* L.

Black linear sori mostly along midrib of leaf, underside. Known in Porto Rico from a single collection by Whetzel & Olive No. *449* from El. Yunque:—Texas and Mexico.

2. **Tolyposporella Sporoboli** Jackson; Whetzel & Kern, Mycologia **18**: 122. 1926.

On *Sporobolus indicus* (L.) R. Br.

Known only from Porto Rico from a single collection by Whetzel & Olive No. *450* from the mountain side of El Yunque, 1916.

Family 2. **TILLETIACEAE**.

Sori forming dusty erumpent spore masses or permanently imbedded in the tissues. Promycelium bearing a terminal cluster or tuft of elongate sporidia.

Urocystis cepulae Frost.

On *Allium Cepa* L. Mentioned by Henricksen (Agr. Exp. Sta. Porto Rico Bull. **7**:45. 1906).

No specimens of this from Porto Rico known. According to Stevenson this smut probably does not occur there (Jour. Dept. Agr. Porto Rico **2**: 163. 1918.).

1. **ENTYLOMA** DeBary, Bot. Zeit. **32**: 101. 1874.

Sori usually in the leaves, generally forming whitish or discolored areas, permanently imbedded in the tissues; spores single, hyaline to yellow or reddish-yellow, occasionally dark colored.

1. **Entyloma australe** Speg. Anal. Soc. Ci. Argent. **10:** 5. July 1880.

Protomyces Physalidis Kalchb. & Cooke, Grevillea **9:** 22. Sept. 1880.
Entyloma Besseyi Farl. Bot. Gaz. **8:** 275. 1883.
Entyloma Physalidis Wint. Hedwigia **22:** 130. 1883.

On *Physalis pubescens* L. Clinton's specimen (N. Am. Fl. **7:** 64. 1906.) so determined by N. L. Britton. Four collections known from Porto Rico:—United States, Canada, South America, and Africa.

2. **Entyloma guaraniticum** Speg. Anal. Soc. Ci. Argent. **17:** 127. 1884.

On *Bidens pilosa* L. (*B. leucantha*).
Pale white spots on the leaves.
There are but three collections of this from Porto Rico known to the writers. Probably common, especially at high altitudes. Inconspicuous and hence easily overlooked:—Massachusetts (?), Florida, and South America.

3. **Entyloma Lobeliae** Farl. Bot. Gaz. **8:** 275. 1883.

On *Lobelia Cliffortiana* L. (Host determined by N. L. Britton).
Clinton's collection is the only one known to the writers from Porto Rico. (See Whetzel & Kern, Mycologia **18:** 123. 1926.) Known otherwise only from North America on *Lobelia inflata*.

2. **BURRILLIA** Setch. Proc. Am. Acad. **26:** 18. 1891.

Sori generally in the leaves, rather permanently imbedded in the tissues; spore balls without a distinct cortex of sterile cells, conspicuous; spores hyaline or yellowish, rather firmly united.

1. **Burrillia Echinodori** Clinton, Jour. Myc. **8:** 154. 1902.

On *Echinodorus cordifolius* (L.) Griseb.
Stevens made a single collection in Porto Rico. There is also a specimen in the private collection of John A. Stevenson; apparently rare:—Florida and California.

Doassansia Sintenisii Bres.

On *Cedrela odorata* L.
Clinton (N. Am. Fl. **7:** 71. 1906) excludes this species remarking "Probably insect work." A re-examination of Sintenis' specimens confirms Clinton's diagnosis.

Order 2. UREDINALES.

The Uredinales, popularly known as rusts, are small, mostly microscopic fungi, parasitic in the tissues of the higher plants (Filicales and Spermatophyta). Many species have spores of five kinds, pycniospores, aeciospores, urediniospores, teliospores, and basidiospores. The first four may occur in regular succession upon one sort of host plant in the order named, but in many species there is a striking change of hosts (heteroecism), a definite part of the life cycle being produced quite apart and dissociated from the other part. The spores are borne in definite groups called sori (rarely singly), covered at least at first by overlying host tissue and set free by early rupture or by weathering. The sori of the foregoing spore-forms are designated pycnia, aecia, uredinia, and telia. In the tropics it is especially notable that many of the species have inconspicuous sori. The urediniospores are repeating spores, i.e., they may reproduce themselves over and over indefinitely under favorable conditions. In the tropics many species perpetuate themselves in the uredinial stage and the rest of the life-history is unknown.

Teliospores germinating by dividing internally into basidia; teliospores compacted laterally into waxy layers. — Fam. 1. Coleosporiaceae.

Teliospores germinating with external basidia.

Teliospores compacted laterally into crusts or columns or occasionly solitary within the tissues. — Fam. 2. Melampsoraceae.

Teliospores fasicicled or free. — Fam. 3. Pucciniaceae.

Family 1. **COLEOSPORIACEAE.**

Teliospores compacted laterally into flattened waxy, cushion-like masses, germinating upon maturity by dividing internally into four basidia. This family is represented in Porto Rico by the genus *Coleosporium.*

1. **COLEOSPORIUM** Lév. Ann. Sci. Nat. III. **8:** 373. 1847.

The genus has all four spore-stages, heteroecious, the aecia being the blister rusts on the leaves (not on the twigs or bark) of pines (*Pinus*). In Porto Rico common in the uredinial stage, which is yellowish and powdery.

1. **Coleosporium Elephantopodis** (Schw.) Thüm. Myc. Univ. *953.* 1878.

Uredo Elephantopodis Schw. Schr. Nat. Ges. Leipzig **1:** 70. 1822.

On *Elephantopus mollis* H.B.K.

This rust is reported on *E. scaber* (N. Am. Fl. **7:** 90) an error for *E. mollis. E. scaber* is restricted to the Eastern Hemisphere.

Common throughout Porto Rico:—southeastern United States, Central America, Cuba, Jamaica, St. Vincent, South America.

2. **Coleosporium Eupatorii** Arth. Bull. Torrey Club **33:** 31. 1906.

On *Hebeclinium macrophyllum* (L.) DC. (*Eupatorium macrophyllum* L.).

First and only report of this species in Porto Rico by Stevenson, Jour. Dept. Agr. Porto Rico **2:** 163. 1918:—Central America, Cuba.

3. **Coleosporium Ipomoeae** (Schw.) Burr. Bull. Ill. Lab. Nat. Hist. **2:** 217. 1885.

Uredo Ipomoeae Schw. Schr. Nat. Ges. Leipzig **1:** 70. 1822.

On *Ipomoea angustifolia* Jacq.
Ipomoea Batatas (L.) Lam.
Ipomoea littoralis Blume. Holway specimen (Arthur, Mycologia **7:** 172), probably a misdetermination for *I. stolonifer* (Botany, Porto Rico and Virgin Islands **6:** 113).
Ipomoea Nil (L.) Roth.
Ipomoea rubra (Vahl) Millsp.
Ipomoea stolonifera (Cyrill) Poir.
Ipomoea tiliacea (Willd.) Choisy.
Quamoclit coccinea (L.) Moench.
Thyella tamnifolia (L.) Raf. (*Jacquemontia tamnifolia* (L.) Griseb.).

Common in Porto Rico. Reported on the last host only from Vieques and St. Croix:—southeastern United States, Central America, Mexico, Jamaica, South America.

4. ***Coleosporium Plumierae** Pat. Bull. Soc. Myc. Fr. **18:** 178. 1902.

On *Plumiera alba* L.
Plumiera Krugii Urban.
Plumiera obtusa L.

Rather rare in Porto Rico; known on *P. obtusa* in this flora only from Mona Island:—Cuba, Guadaloupe.

* See note, p. 144.

Family 2. **MELAMPSORACEAE** (Uredinaceae).

Teliospores compacted laterally into flattened crusts, filiform columnar masses, or sometimes solitary within the tissues (except in *Olivea*); basidia external.

PHYSOPELLA.

For species formerly referred to this genus see *Phakopsora.*

1. **PHAKOPSORA** Diet. Ber. Deuts. Bot. Ges. **13:** 334. 1895.

Telia laterally expanded, the teliospores one-celled, catenulate, compacted; uredinia with delicate peridium, with peripheral, free or imbricated paraphyses, or naked, the urediniospores catenulate, falling away at maturity.

1. **Phakopsora** (?) **Aeschynomensis** Arth. Bull. Torrey Club **44:** 509. 1917.
Uredo Aeschynomensis Arth. Bot. Gaz. **39:** 392. 1905.
Physopella (?) *Aeschynomensis* Arth. N. Am. Fl. **7:** 104. 1907.
On *Aeschynomene americana* L.
Collected throughout Porto Rico by Stevens during October and November only:—Cuba, Mexico, South America.

2. **Phakopsora fenestrala** Arth. Bull. Torrey Club **44:** 508. 1917.
Uredo fenestrala Arth. Mycologia **7:** 332. 1915.
Schroeteriaster fenestrala Arth. Mycologia **8:** 24. 1916.
On *Cicca disticha* L. (*Phyllanthus distichus* Muell.-Arg.).
Asterandra grandifolia (L.) Britton. (*Phyllanthus grandifolius* L.).
Phyllanthus Niruri L.
Rather common throughout Porto Rico and Vieques especially on *C. disticha.* Known also from Santo Domingo.

3. **Phakopsora Meibomiae** Arth. Bull. Torrey Club **44:** 509. 1917.
Physopella Meibomiae Arth. Mycologia **9:** 59. 1917.
On *Meibomia supina* (Sw.) Britton (*Desmodium supinum* DC.).
Known from Porto Rico, Añasco hillsides (type locality) and from along the Tanama River, the only collections being those of Whetzel and Olive:—Santo Domingo and South America.

4. **Phakopsora tecta** Jackson & Holway; Jackson, Mycologia **18:** 148. 1926.
? *Uredo Commelyneae* Kalchbr. Grevillea **11:** 24. 1882. Not Speg. 1880.
On *Commelina elegans* H.B.K.
Commelina longicaulis Jacq. (*C. nudiflora* authors not L.).
Commelina virginica L. Specimens listed under this species now referred to *C. elegans.*
Porto Rico, Vieques and St. Thomas:—Trinidad, South America, and southern Africa.

5. **Phakopsora Vignae** (Bres.) Arth. Bull. Torrey Club **44:** 509. 1917.
Uredo Vignae Bres. Rev. Myc. **13:** 66. 1891.
Uredo Sojae P. Henn. Hedwigia Beibl. **42:** 108. 1903. Not *Uromyces Sojae* Sydow 1906.
Uredo concors Arth. Mycologia **7:** 330. 1915.
Physopella concors Arth. Mycologia **9:** 60. 1917.
On *Dolichos Lablab* L.
Phaseolus lunatus L.
Teramnus uncinatus (L.) Sw.

Known only in the uredinial stage. Apparently rare in Porto Rico, only four collections recorded; also in St. Thomas:—Cuba, Trinidad, Java, Japan, and Philippine Islands. (Cf. N. Am. Fl. **7**: 673).

6. **Phakopsora Vitis** (Thüm.) Syd. Hedwigia **38**: 141. 1899.

Uredo Vitis Thüm. Pilze Weinst. 182. 1878.
Uredo Vialae Lagerh. Compt. Rend. Acad. Sci. Paris **110**: 729. 1890.
Physopella Vitis Arth. Résult. Sci. Congr. Bot. Vienne 338. 1906.

On *Vitis vinifera* L.

Known in this region only in the uredinial stage. Telia reported from southern United States (Phytopathology **14**: 171).

Reported from several stations in Porto Rico.:—southeastern United States, Cuba, Jamaica, South America, and Japan.

SCHROETERIASTER.

For species formerly referred to this genus see *Phakopsora*.

2. **OLIVEA** Arth. Mycologia **9**: 60. 1917.

Uredinia with a mass of incurved paraphyses united at the base and forming a globose basket, the urediniospores stellately angular; the teliospores replacing the urediniospores in the basket of paraphyses, free, one-celled. Cycle of development also includes deep-seated aecia and mammilliform pycnia.

1. **Olivea capituliformis** (P. Henn.) Arth. Mycologia **9**: 61. 1917.

Uredo capituliformis P. Henn. Hedwigia **34**: 97. 1895.
Ravenelia capituliformis P. Henn. Hedwigia **43**: 160. 1904.

On *Alchornea latifolia* Sw.

An interesting tree rust. Common in Porto Rico but inconspicuous:—Tortola, Brazil.

2. **Olivea Petitiae** Arth. Mycologia **9**: 62. 1917.

On *Petitia domingensis* Jacq.
Known only from the type locality in Porto Rico.

3. **MILESIA** F. B. White, Scott. Nat. **4**: 162. 1877.

Teliospores within the epidermal cells or between the mesophyll cells; urediniospores pointed and smooth, or obovate and spinulose.

1. **Milesia australis** Arth. Bull. Torrey Club **51**: 53. 1924.

Uredo Blechni Diet. & Neger. Bot. Jahrb. **22**: 358. 1896. Not *Milesia Blechni* Arth. 1922.

On *Blechnum occidentale* L.
Polytaenium Feei (Schaffn.) Maxon.
Two collections from Porto Rico:—Salvador, Trinidad, South America.

2. **Milesia columbiensis** (Dietel) Arth. Mycologia **7**: 175. 1915.

Milesina columbiensis Dietel; Mayor, Mem. Soc. Neuch. Sci. **5**: 559. 1913.

On *Nephrolepis rivularis* (Vahl) Mett.
Rare in Porto Rico:—South America.

4. **CROSSOPSORA** Syd. Ann. Myc. **16**: 343. 1918.

Telia erumpent, the teliospores catenulate and adhering to form a filiform column, somewhat horny when dry; uredinia erumpent, dehiscent by a central

pore, the urediniospores borne singly on pedicels, the walls colored or nearly colorless, echinulate, the pores obscure; the cycle of development imperfectly known, only uredinia and telia recognized.

1. **Crossopsora notata** Arth. N. Am. Fl. **7**: 695. 1925.

Uredo notata Arth. Mycologia **9**: 89. 1917.
Cronartium notatum Arth. Mem. Torrey Club **17**: 114. 1918.

On *Byrsonima crassifolia* (L.) H.B.K.

Known from Porto Rico by a single collection of Whetzel and Olive from Mayaguez:—Cuba.

5. **CEROTELIUM** Arth. Bull. Torrey Club **33**: 30. 1906.

Telia erect, somewhat waxy, erumpent, becoming pulverulent at surface, the teliospores one-celled, catenulate, the terminal spores readily separating upon germination; uredinia as in *Phakopsora*.

1. **Cerotelium alienum** (Syd. & Butler) Arth. N. Am. Fl. **7**: 698. 1925.

Chrysomyxa aliena Syd. & Butler, Ann. Myc. **10**: 267. June, 1912.
Uredo Spondiadis Petch, Ann. Bot. Garden Peradeniya **5**: 248. Aug. 1912.
Kuehneola aliena Syd. & Butler; Sydow, Monog. Ured. **3**: 322. 1914.
Cerotelium Spondiadis Arth. Bull. Torrey Club **44**: 510. 1917.

On *Spondias Mombin* L.

A single collection known from Porto Rico by Seaver and Chardon taken near Manati, Mar. 30, 1923. Otherwise reported only from India.

2. **Cerotelium Canavaliae** Arth. Bull. Torrey Club **33**: 30. 1906.

On *Canavali ensiformis* (L.) DC.
Canavali gladiata DC. Considered by Britton a synonym of *C. ensiformis* (L.) DC. Botany, Porto Rico and Virgin Islands **5**: 419.

Known only from Porto Rico.

3. **Cerotelium desmium** (Berk. & Br.) Arth. N. Am. Fl. **7**: 698. 1925.

Aecidium desmium Berk. & Br. Jour. Linn. Soc. **14**: 95. 1875.
Uredo Gossypii Lagerh. Jour. Myc. **7**: 48. 1891.
Kuehneola Gossypii Arth. N. Am. Fl. **7**: 187. 1912.
Cerotelium Gossypii Arth. Bull. Torrey Club **44**: 510. 1917.

On *Gossypium barbadense* L.
Gossypium brasiliense Macfad.
Gossypium hirsutum L.
Montezuma speciosissima Sessé & Moc. (*Thespesia grandiflora* DC.).

Common in Porto Rico on the tree cottons and also injurious to the cultivated sea island cotton; recorded on the latter from Mona:—Florida, Cuba, South America, India, Java, New Guinea, Philippines.

4. **Cerotelium Fici** (Cast.) Arth. Bull. Torrey Club **44**: 509. 1917.

Uredo Fici Cast.; Desmaz. Pl. Crypt. (Fasc. 34) *1662*. 1848.
Uredo ficina Juel, Bih. Sv. Vet.-Akad. Handl. **23** (3)[10]: 25. 1897.
Kuehneola Fici Butler, Ann. Myc. **12**: 76. 1914.

On *Ficus Carica* L.
Ficus crassinervia Desf.
Ficus laevigata Vahl.
Ficus lentiginosa Vahl. Now regarded as a synonym of *F. laevigata* Vahl, Botany, Porto Rico and Virgin Islands **5**: 237.

Note:—The report of this species on *Carica Papaya* L. (Mycologia **9**: 63) an error.

Common in the uredinial form throughout Porto Rico especially on *F. laevigata:*—southeastern United States, Central America, Cuba, South America, Europe, and in all tropical regions (chiefly as uredinia).

6. **ENDOPHYLLOIDES** Whetzel & Olive, Am. Jour. Bot. **4**: 50. 1917.

Aecia erumpent, the teliospores one-celled, catenulate, the columns waxy or horny when dry; peridium wanting or inconspicuous.

1. **Endophylloides portoricensis** Whetzel & Olive, Am. Jour. Bot. **4**: 51. 1917.

Aecidium expansum Arth. Mycologia **7**: 317. 1915. Not *A. expansum* Diet.

Cronartium portoricensis Sacc. & Trott. in Sacc. Syll. Fung. **23**: 851. 1925.

On *Mikania cordifolia* (L. f.) Willd.
Mikania fragilis Urban.
Mikania odoratissima Urban.
Mikania Stevensiana Britton (Britton & Cowell, Phan. Spec. No. *4225*).
Mikania sp. (See Botany, Porto Rico & Virgin Islands **6**: 293.)

Common in Porto Rico, especially on the first named host:—Panama, Guatemala, Salvador, Trinidad.

7. **ENDOPHYLLUM** Lév. Mem. Soc. Linn. Paris **4**: 208. 1825.

Aecia aecidioid, pulverulent, the teliospores catenulate, one-celled, the wall colored, verrucose; peridium evanescent.

1. **Endophyllum circumscriptum** (Schw.) Whetzel & Olive, Am. Jour. Bot. **4**: 49. 1917.

Aecidium circumscriptum Schw.; Berk. & Curt. Jour. Phila. Acad. Sci. II. **2**: 283. 1853.

Aecidium Cissi Wint. Hedwigia **23**: 168. 1884.

On *Cissus sicyoides* L.

Very common and abundant in Porto Rico; also in St. Thomas:—Central America, Cuba, Jamaica, Trinidad, South America.

2. **Endophyllum decoloratum** (Schw.) Whetzel & Olive, Am. Jour. Bot. **4**: 49. 1917.

Aecidium decoloratum Schw.; Berk. & Curt. Jour. Phila. Acad. Sci. II. **2**: 283. 1853.

Aecidium Wedeliae Earle, Muhlenbergia **1**: 16. 1901.

Aecidium Clibadii Syd. Ann. Myc. **1**: 333. 1903.

Endophyllum Wedeliae Whetzel & Olive, Am. Jour. Bot. **4**: 49. 1917.

On *Clibadium erosum* (Sw.) DC.
Wedelia trilobata (L.) Hitchc.

Common in Porto Rico, especially on *Wedelia:*—Mexico, Guatemala, Trinidad, South America.

3. **Endophyllum Stachytarphetae** (P. Henn.) Whetzel & Olive, Am. Jour. Bot. **4**: 50. 1917.

Aecidium Stachytarphetae P. Henn. Hedwigia Beibl. **38**: 71. 1899.

On *Valerianoides cayennense* (L. C. Rich.) Kuntze (*Stachytarpheta cayennensis* Vahl).

Rare in Porto Rico:—Santo Domingo, South America.

Endophyllum Wedeliae Whetzel. & Olive.

See *Endophyllum decoloratum* Schw.

8. **PUCCINIOSIRA** Lagerh. Ber. Deuts. Bot. Ges. **9:** 344. 1891.

Telia erumpent, the teliospores catenulate, two-celled by transverse partition, the wall nearly or quite colorless; peridium cylindrical, rupturing at apex.

1. **Pucciniosira pallidula** (Speg.) Lagerh. Tromsö Mus. Aarsb. **16:** 122. 1894.

Coleosporium (?) *pallidulum* Speg. Anal. Soc. Ci. Argent. **17:** 95. 1884.

On *Triumfetta Bartramia* L. (*T. rhomboidea* Jacq.).
Triumfetta Lappula L.
Triumfetta semitriloba Jacq.

Common in Porto Rico, also in St. Croix, St. Thomas, and Vieques:—Mexico, Guadeloupe, Jamaica, Trinidad, South America.

9. **BOTRYORHIZA** Whetzel & Olive, Am. Jour. Bot. **4:** 47. 1917.

Telia erumpent, pulverulent, the teliospores pedicellate, one-celled, thin-walled, without peridium, the haustoria botryose.

1. **Botryorhiza Hippocrateae** Whetzel & Olive, Am. Jour. Bot. **4:** 47. 1917.

Uromyces Hippocrateae Sacc. & Trott., in Sacc. Syll. Fung. **23:** 647. 1925.

On *Hippocratea volubilis* L.

Common in Porto Rico; not reported elsewhere.

Family 3. **PUCCINIACEAE** (Aecidiaceae).

Teliospores fascicled or free, the walls firm or overlaid with an outer hygroscopic layer; basidia external; the telia usually erumpent, compact or pulverulent.

Argomyces insulanus Arth.

See *Puccinia insulana* Arth.

Argomyces Vernoniae Arth.

See *Puccinia Arthuriana* H. S. Jackson.

1. **RAVENELIA** Berk. Gard. Chron. **1853:** 132. 1853.

Teliospores united into a head on a compound pedicel. Cycle of development may include pycnia, aecia (primary uredinia) and telia.

1. **Ravenelia Caesalpiniae** Arth. Bull. Torrey Club **31:** 5. 1904.

Uromyces Caesalpiniae Arth. Mycologia **7:** 183. 1915.

On *Caesalpinia* sp. An error in determination for *Mimosa Ceratonia*.
Mimosa Ceratonia L.

Known only from Porto Rico, Vieques and St. Thomas, but exceedingly common throughout this range.

2. **Ravenelia cassiaecola** Atk. Bot. Gaz. **16:** 313. 1891.

On *Chamaecrista Aeschynomene* (DC.) Greene.
Chamaecrista Swartzii (Wickstr.) Britton (*Chamaecrista glandulosa* Millsp.).

Rather rare in Porto Rico:—southeastern United States.

3. **Ravenelia caulicola** Arth. N. Am. Fl. **7**: 143. 1907.

On *Cracca cinerea* (L.) Morong.

Uncommon in Porto Rico. Collected only by Stevens, Seaver and Chardon:—Bahama Islands.

4. **Ravenelia Cebil** Speg. Anal. Mus. Nac. Buenos Aires **19**: 295. 1909.

On *Piptadenia peregrina* (L.) Benth.

Stevens' collection of this interesting South American tree rust is the only one recorded from Porto Rico:—South America.

5. **Ravenelia Humphreyana** P. Henn. Hedwigia **37**: 278. 1898.

Ravenelia pulcherrima Arth. Bot. Gaz. **39**: 395. 1905.

On *Poinciana pulcherrima* L. (*Caesalpinia pulcherrima* Sw.).

A single record of this species in Porto Rico by Stevenson (Jour. Dept. Agr. Porto Rico **2**: 175):—Mexico, Guatemala, Cuba, Jamaica.

6. **Ravenelia Indigoferae** Tranz. Hedwigia **33**: 369. 1894.

On *Indigofera suffruticosa* Mill. (*I. Anil* L.).

Common on this host wherever it occurs in Porto Rico and Vieques:—Mexico Cuba, Jamaica, Bermuda, South America.

7. **Ravenelia Ingae** (P. Henn.) Arth. N. Am. Fl. **7**: 132. 1907.

Uredo Ingae P. Henn. Hedwigia Beibl. **38**: 69. 1899.

Ravenelia Whetzelii Arth. Mycologia **9**: 64. 1917.

On *Inga laurina* (Sw.) Willd.

Inga Inga (L.) Britton (*Inga vera* Willd.).

R. Whetzelii is an aecial stage (uredinoid aecia around the pycnia). The telia of this species are not known. Common throughout Porto Rico:—eastern Mexico, South America.

8. **Ravenelia Pithecolobii** Arth. Bot. Gaz. **39**: 394. 1905.

On *Pithecellobium Unguis-cati* (L.) Mart.

One collection from Vieques, the only one recorded from this region:—southern Florida, Central Mexico, and Cuba.

9. **Ravenelia portoricensis** Arth. Bull. Torrey Club **31**: 5. 1904.

On *Isandrina emarginata* (L.) Britton & Rose (*Cassia emarginata* L.).

The only collection recorded from Porto Rico is the type specimen taken by Heller in 1902 at Ponce:—Jamaica.

10. **Ravenelia siliquae** Long, Bot. Gaz. **35**: 118. 1903.

On *Vachellia Farnesiana* (L.) W. & A. (*Acacia Farnesiana* Willd.).

Rare. Only two collections from Porto Rico, Yauco and Coamo Springs:—southern Mexico.

11. **Ravenelia Stevensii** Arth. Mycologia **7**: 178. 1915.

On *Acacia riparia* H.B.K.

Known only from Porto Rico and St. Thomas.

Ravenelia Whetzelii Arth.

See *Ravenelia Ingae* (P. Henn.) Arth.

Hemileia vastatrix Berk. & Br. Gard. Chron. **1869:** 1157. 1869.

On *Coffea arabica* L.

Once reported from Porto Rico on imported plants but afterwards entirely destroyed (see N. Am. Fl. **7:** 150. 1907).

2. **PROSPODIUM** Arth. Jour. Myc. **13:** 31. 1907.

Teliospores free, two-celled by transverse septum, the wall somewhat laminate, the pedicels refractive, usually appendaged. The uredinia usually encircled by paraphyses, urediniospores pedicellate, the walls often with a gelatinous layer.

1. **Prospodium appendiculatum** (Wint.) Arth. Jour. Myc. **13:** 31. 1907.

Puccinia appendiculata Wint. Flora **67:** 262. 1884.

On *Tecoma stans* (L.) H.B.K. (*Stenolobium stans* Seem.).

Rare. Porto Rico and St. Croix:—central Mexico, Cuba, Martinique, Jamaica, South America.

2. **Prospodium plagiopus** (Mont.) Arth. N. Am. Fl. **7:** 162. 1912.

Puccinia plagiopus Mont. Pl. Cell. Cuba 294. 1842.

On *Tabebuia pallida* Miers. (*Tecoma pentaphylla* (L.) Juss.).

Rare. Known from two localities in Porto Rico, Añasco and Rio Piedras:—the only stations outside Cuba.

3. **Prospodium tuberculatum** (Speg.) Arth. N. Am. Fl. **7:** 161. 1912.

Uredo tuberculata Speg. Anal. Soc. Ci. Argent. **9:** 172. 1880.
Puccinia tuberculata Speg. Anal. Soc. Ci. Argent. **10:** 6. 1880.

On *Lantana Camara* L.

Rare. First collected in Porto Rico by Seaver and Chardon, 1923:—central Mexico, South America.

3. **DICHEIRINIA** Arth. N. Am. Fl. **7:** 147. 1907.

Teliospores free, more than one on each pedicel, one-celled; uredinia encircled by paraphyses; urediniospores borne singly on pedicels, the wall echinulate.

1. **Dicheirinia binata** (Berk.) Arth. N. Am. Fl. **7:** 147. 1907.

Uredo Cabreriana Kern & Kellerm. Jour. Myc. **13:** 25. 1907.

On *Erythrina Crista-galli* L.
Erythrina glauca Willd.

Occurs in several localities in Porto Rico on the last named host; known only from a single tree in Experiment Station grounds Mayaguez, on the first named host:—Central America, Cuba, Trinidad.

4. **TRANZSCHELIA** Arth. Résult. Sci. Congr. Bot. Vienne 340. 1906.

Teliospores forming heads by being attached by short pedicels to a common stalk. Cycle of development includes pycnia, aecia, uredinia, and telia.

1. **Tranzschelia punctata** (Pers.) Arth. Résult. Sci. Congr. Bot. Vienne 340. 1906.

On *Amygdalus persica* L.

Known from Porto Rico from a single collection by Earle 1903 on peach leaves at Mayaguez:—Bermuda, Eastern Canada, United States, Central America, South America, Europe, southern Africa, and Australia.

5. **KUEHNEOLA** Magn. Bot. Centralbl. **74:** 169. 1898.

Telia erumpent, velvety, the teliospores one-celled, catenulate, with many spores in spreading, free chains; uredinia with paraphyses hyphoid, inconspicuous or none.

Kuehneola Fici (Cast.) Arth.

See *Cerotelium Fici* (Cast.) Arth.

Kuehneola Gossypii (Lagerh.) Arth.

See *Cerotelium desmium* (Berk. & Br.) Arth.

1. Kuehneola malvicola (Speg.) Arth. N. Am. Fl. **7:** 187. 1912.

Uredo malvicola Speg. Anal. Soc. Ci. Argent. **17:** 124. 1884.
Uredo Hibisci Syd. Hedwigia Beibl. **40:** 128. 1901.

On *Malache scabra* B. Vogel (*Pavonia racemosa* Sw.).
Reported from Porto Rico only on this host:—southern United States, Central America, Cuba, South America.

6. **DESMELLA** Syd. Ann. Myc. **16:** 241. 1918.

Telia without peridium or paraphyses, the teliospores two-celled, the wall colored, firm, smooth, pores one in each cell, apical or in the upper part; uredinia without peridium or paraphyses, the urediniospores borne singly on pedicels, globoid, the wall colored, echinulate, the pores one to several, equatorial or scattered. Cycle of development incompletely known, only uredinia and telia recognized, both subepidermal, forming beneath the stomata and protruding in tufts thus appearing superficial; possibly heteroecious.

1. Desmella superficialis (Speg.) Syd. Ann. Myc. **16:** 242. 1918.

Caeoma superficialis Speg. Anal. Soc. Ci. Argent. **17:** 96. 1884.
Uredo superficialis De-Toni in Sacc. Syll. Fung. **7:** 865. 1888.
Uredo Gymnogrammes P. Henn. Hedwigia **34:** 337. 1895.
Desmella Gymnogrammes Syd. Ann. Myc. **16:** 242. 1918.

On *Adiantum latifolium* Lam.
Dennstaedtia rubiginosa (Kaulf.) Moore.
Dryopteris dentata (Forsk.) C. Chr. (*D. mollis* Hieron).
Dryopteris Poiteana (Bory) Urban.
Dryopteris subtetragona (Link) Maxon (*D. tetragona* Urban).
Goniopteris guadalupensis Fée, reported in Mycologia **9:** 91, 1917, error for *Dryopteris subtetragona*.
Pityrogramma calomelanos (L.) Link.
Tectaria martinicensis (Spreng.) Copel.

Common in the high mountain regions of Porto Rico:—Cuba, Jamaica, Grenada, South America.

7. **UROMYCES** Unger. Exanth. Pfl. 277. 1833.

Teliospores free, pedicelled, one-celled, the wall colored; uredinia when present erumpent, without peridium, urediniospores borne singly on pedicels, the wall echinulate or verrucose, the pores two to several, variously arranged; aecia of the aecidioid type present in some species; heteroecious or autoecious.

1. Uromyces affinis Wint. Hedwigia **24:** 259. 1885.

Uredo globulosa Arth. Mycologia **8:** 22. 1916. (See Mycologia **14:** 14. 1922.)
On *Hypoxis decumbens* L.

The uredo stage of this rust very common wherever the host is found in Porto Rico:—local from Connecticut and Missouri southward through Mexico and the West Indies; also in South America.

2. **Uromyces Anthacanthi** H. S. Jackson; Seaver, Mycologia **16**: 47. 1924.

On *Anthacanthus spinosus* (Jacq.) Nees.

Known only from the type locality in St. Croix.

3. **Uromyces appendiculatus** (Pers.) Fries, Summa Veg. Scand. 514. 1849.

Not *U. appendiculatus* Ung. 1836.

Uredo appendiculata Pers. Ann. Bot. Usteri **15**: 16. 1795.
Nigredo appendiculata Arth. Résult. Sci. Congr. Bot. Vienna 343. 1906.

On *Dolichos Lablab* L.
Phaseolus adenanthus G.F.W. Meyer.
Phaseolus lathyroides L.
Phaseolus vulgaris L.
Vigna repens (L.) Kuntze.
Vigna vexillata (L.) A. Rich.

Common in Porto Rico. On *Vigna repens* in Vieques:—eastern United States, Mexico, Cuba, Jamaica, Europe, Africa, Asia, Japan, Australia, and South America.

4. **Uromyces Arachidis** (Speg.) P. Henn. Hedwigia **35**: 224. 1896.

Puccinia Arachidis Speg. Anal. Soc. Ci. Argent. **17**: 90. 1884.
Uredo Arachidis Lagerh. Tromsö Mus. Aarsb. **17**: 106. 1894.
Bullaria (?) *Arachidis* Arth. & Mains, N. Am. Fl. **7**: 484. 1922.

On *Arachis hypogaea* L.

Two collections from Porto Rico by Stevens and one by Tucker:—Florida, Cuba, Grenada, Guadaloupe, Montserrat, South America.

5. **Uromyces bidenticola** (P. Henn.) Arth. Mycologia **9**: 71. 1917.

Uredo Bidentis P. Henn. Hedwigia **35**: 251. 1896.
Uredo bidenticola P. Henn. Hedwigia **37**: 279. 1898.
Klebahnia Bidentis Arth. Mycologia **7**: 196. 1915.

On *Bidens cynapiifolia* H.B.K.
Bidens pilosa L. (*Bidens leucantha* Willd.).
Cosmos caudatus H.B.K.

The most common rust in Porto Rico:—Jamaica, Canary Islands, Trinidad, Cuba, Martinique, South America, Central America.

6. **Uromyces Bidentis** Lagerh. Bull. Soc. Myc. Fr. **11**: 213. 1895.

Uromyces densus Arth. Mycologia **7**: 196. 1915.
Teleutospora Bidentis Arth. & Bisby, N. Am. Fl. **7**: 520. 1922.

On *Bidens pilosa* L. (*B. leucantha* Willd.).

Usually occurring with *U. bidenticola* on *B. pilosa*. Apparently not common in Porto Rico:—Martinique, Jamaica, South America.

Uromyces Borreriae P. Henn.

See *Uredo Borreriae* (P. Henn.) Kern & Whetzel.

7. **Uromyces caryophyllinus** (Schrank) Wint. in Rab. Krypt.-Fl. 1^1: 149. 1881.

Lycoperdon caryophyllinum Schrank, Baier. Fl. **2**: 668. 1789.
Nigredo caryophyllina Arth. N. Am. Fl. **7**: 246. 1912.

On *Dianthus* sp.

A single report from San Juan by Stevenson:—chiefly in greenhouses throughout temperate portions of North America; also in Europe and Japan.

8. **Uromyces Celosiae** Diet. & Holw.; Holw. Bot. Gaz. **31**: 326. 1901.

Nigredo (?) *Celosiae* Arth. N. Am. Fl. **7**: 246. 1912.

On *Iresine Celosia* L.

A single collection of this by Seaver and Chardon at Lapica is known from Porto Rico:—Mexico, Guatemala.

9. **Uromyces Cestri** Lév. Ann. Sci. Nat. III. **8**: 371. 1847.

Aecidium Cestri Mont. Ann. Sci. Nat. II. **3**: 356. 1835.
Uromycopsis Cestri Arth. Résult. Sci. Congr. Bot. Vienne 345. 1906.
Pucciniola Cestri Arth. N. Am. Fl. **7**: 452. 1921.

On *Cestrum laurifolium* L'Her.
Cestrum macrophyllum Vent.

Aecia common in Porto Rico; also reported from St. Jan: and Tortola. Telia when present occurring with aecia:—Jamaica, South America.

10. **Uromyces Cologaniae** Arth. Bot. Gaz. **39**: 387. 1905.

Nigredo Cologaniae Arth. N. Am. Fl. **7**: 256. 1912.

On *Teramnus uncinatus* (L.) Sw.

But two collections known from Porto Rico, one by Holway in 1911 near Cayey and one from Lapica by Seaver and Chardon in 1923:—Mexico.

11. **Uromyces columbianus** Mayor, Mem. Soc. Neuch. Sci. Nat. **5**: 467. 1913.

Nigredo columbiana Arth. Mycologia **7**: 194. 1915.

On *Melanthera canescens* (Kuntze) O. E. Schultz.
Melanthera nivea (L.) Small.

Common in Porto Rico; also found in Vieques on *M. nivea*:—Trinidad, South America, Central America.

12. **Uromyces Commelinae** (Speg.) Cooke, Trans. Roy. Soc. Edinb. **31**: 342. 1888.

Uredo Commelinae Speg. Anal. Soc. Ci. Argent. **9**: 172. 1880.
Nigredo Commelinae Arth. N. Am. Fl. **7**: 237. 1912.

On *Commelina elegans* H.B.K. Records on *C. virginica* from Porto Rico, error for *C. elegans*.

A single collection by Stevens and two by Chardon known from Porto Rico. Occurs in St. Croix and St. Thomas:—Florida and Texas, South America, Africa, Japan.

Uromyces densus Arth.

See *Uromyces Bidentis* Lagerh.

13. **Uromyces Dolicholi** Arth. Bull. Torrey Club **33**: 27. 1906.

Nigredo Dolicholi Arth. N. Am. Fl. **7**: 258. 1912.

On *Cajan Cajan* (L.) Millsp. (*Cajanus indicus* Spreng.).
Dolicholus minimus (L.) Medic. Due to printer's error this appears as *D. eninimus* in a number of publications.
Dolicholus reticulatus (Sw.) Millsp.

Very common in Porto Rico especially on *Cajan Cajan*. Also occurs in St. Thomas and Vieques:—Texas, Cuba, possibly also in South America.

14. **Uromyces dolichosporus** Diet. & Holw.; Holw. Bot. Gaz. **31**: 327. 1901.

Uromyces Tournefortiae P. Henn. Hedwigia **47**: 267. 1908.
Klebahnia dolichospora Arth. N. Am. Fl. **7**: 480. 1921.

On *Tournefortia microphylla* Bertero.
Tournefortia scabra Lam.

Autoecious with pycnia, uredinoid aecia and telia; distorts and etiolates young and growing organs of the host.

Collected in Porto Rico by Whetzel & Olive No. *312*. Referred by error to *Aecidium Tournefortiae* P. Henn. in Mycologia **9**: 88:—Mexico, Cuba, South America.

15. **Uromyces Eragrostidis** Tracy, Jour. Myc. **7**: 281. 1893.

Nigredo Eragrostidis Arth. Résult. Sci. Congr. Bot. Vienne 343. 1906.

On *Eragrostis ciliaris* (L.) Link.
Eragrostis tephrosanthos Schult.

Rare. Porto Rico and Vieques:—southern United States, Mexico.

16. **Uromyces gemmatus** Berk. & Curt.; Berk. Jour. Linn. Soc. **10**: 357. 1869.

Klebahnia gemmata Arth. N. Am. Fl. **7**: 479. 1921.

On *Jacquemontia nodiflora* (Desv.) G. Don.

Known only from the West Indies. Not uncommon in Porto Rico, St. Croix and St. Thomas:—Jamaica, Cuba.

17. **Uromyces Hedysari-paniculati** (Schw.) Farl.; Ellis, N. Am. Fungi *246*. 1879.

Puccinia Hedysari-paniculati Schw. Nat. Ges. Leipzig **1**: 74. 1822.
Uredo Desmodii-tortuosi P. Henn. Hedwigia **35**: 252. 1896.
Nigredo Hedysari-paniculati Arth. Résult. Sci. Congr. Bot. Vienne 343. 1906.

On *Meibomia axillaris* (Sw.) Kuntze.
Meibomia purpurea (Mill.) Vail (*Desmodium tortuosum* DC., *Meibomia tortuosa* Kuntze).
Meibomia scorpiurus (Sw.) Kuntze (*Desmodium scorpiurus* Desv.).
Meibomia umbrosa Britton.

Apparently not common in Porto Rico:—eastern United States, Cuba, Mexico, South America.

18. **Uromyces Hellerianus** Arth. Bull. Torrey Club **31**: 2. 1904.

Nigredo Helleriana Arth. N. Am. Fl. **7**: 267. 1912.

On *Cayaponia americana* (Lam.) Cogn.
Cayaponia racemosa (Sw.) Cogn.
Fevillea cordifolia L.
Melothria guadalupensis (Spreng.) Cogn.

Very common in Porto Rico:—Cuba, Central America.

19. **Uromyces Howei** Peck, Ann. Rep. N. Y. State Mus. **30**: 75. 1879.

Nigredo (?) *Howei* Arth. N. Am. Fl. **7**: 264. 1912.

On *Asclepias curassavica* L.
Ibatia maritima (Jacq.) Dcne. (*Ibatia muricata* Griseb.).

Very common in Porto Rico on the first host only. Known from St. Croix on *Ibatia maritima*:—southern Canada and northern United States, locally in Florida, Texas; common throughout Cuba, Mexico, Central America, and South America.

20. **Uromyces ignobilis** (Syd.) Arth. Mycologia **7**: 181. 1915.

Uredo ignobilis Syd. Ann. Myc. **4**: 444. 1906.

Uromyces major Arth. Bull. Torrey Club **38**: 377. 1911.
Nigredo major Arth. N. Am. Fl. **7**: 225. 1912.

On *Sporobolus indicus* (L.) R. Br.
Sporobolus virginicus (L.) Kunth.

Common in Porto Rico:—Mexico, India.

21. **Uromyces jamaicensis** Vesterg. Ark. Bot. Stockh. **4**[15]: 33. 1905.

Teleutospora jamaicensis Arth. & Bisby, N. Am. Fl. **7**: 516. 1922.

On *Bauhinia Pauletia* Pers.

But two stations known for this rust in Porto Rico, Mayaguez and San German:—Mexico, Jamaica.

22. **Uromyces Janiphae** (Wint.) Arth. Mycologia **7**: 190. 1915.

Uredo Janiphae Wint. Grevillea **15**: 86. 1887.

On *Manihot Manihot* (L.) Cockerell (*Jatropha Manihot* L.).

Apparently rare in Porto Rico as but few collections are recorded:—distributed throughout tropical America; possibly occurs in the Old World.

23. **Uromyces leptodermus** Syd.; Syd. & Butler, Ann. Myc. **4**: 430. 1906.

Nigredo leptoderma Arth. N. Am. Fl. **7**: 224. 1912.

On *Lasiacis divaricata* (L.) Hitchc.
Lasiacis ligulata Hitchc. & Chase.
Lasiacis Sloanei (Griseb.) Hitchc.
Lasiacis sorghoidea (Desv.) H. & C. (*L. Swartziana* Hitchc.).
Panicum barbinode Trin. (*P. molle* Auct. not Swartz).
Panicum parvifolium Lam.

Field observations by Whetzel, Kern and Toro indicate that this is connected with *Aecidium abscedens* Arth. on *Randia aculeata* L.

Very common in Porto Rico, Mona and St. Croix:—Cuba, Jamaica, India.

24. **Uromyces Neurocarpi** Dietel, Hedwigia **34**: 292. 1895.

Nigredo Neurocarpi Arth. N. Am. Fl. **7**: 258. 1912.

On *Martiusia laurifolia* (Poir.) Britton (*Clitoria cajanifolia* Benth.).
Martiusia rubiginosa (Juss.) Britton (*Clitoria rubiginosa* Juss.).

Common in Porto Rico especially on *M. rubiginosa:*—Jamaica, Cuba, Mexico, South America.

Uromyces Pavoniae Arth.

See *Puccinia heterospora* Berk. & Curt.

25. **Uromyces pianhyensis** P. Henn. Hedwigia **47**: 266. 1908.

On *Wedelia reticulata* DC.

Known in the West Indies only from Porto Rico. Probably common here but rarely collected because of its inconspicuous character:—South America.

26. **Uromyces proëminens** (DC.) Pass. Rab. Fungi Eur. *1795*. 1873.

Nigredo proëminens Arth. N. Am. Fl. **7**: 259. 1912.

On *Chamaesyce hirta* (L.) Millsp. (*Euphorbia hirta* L., *E. pilulifera* L.).
Chamaesyce hypericifolia (L.) Millsp.
Chamaesyce hyssopifolia (L.) Small. (*Chamaesyce brasiliensis* Small, *Euphorbia brasiliensis* Lam.).
Chamaesyce nutans (Lag.) Small.

Chamaesyce prostrata (Ait.) Small.
Chamaesyce serpens (H.B.K.) Small.
Poinsettia cyathophora (Murr.) Kl. & Garcke.
Poinsettia heterophylla (L.) Kl. & Garcke.

A very common rust on numerous hosts in Porto Rico: also recorded from Vieques and St. Croix:—United States, Bermuda, Mexico, Central America, Jamaica, Bahamas, Cuba, South America, Europe, Asia, and Africa.

27. **Uromyces Rhyncosporae** Ellis, Jour. Myc. **7**: 274. 1893.

Nigredo Rhyncosporae Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Rynchospora corymbosa* (L.) Britton. The record for the rust on this host is given under the synonym *R. aurea* Vahl (Mycologia **7**: 182) but it should be referred, according to Arthur (mss. correction), to *Puccinia angustatoides*.
Rynchospora distans (Michx.) Vahl.
Rynchospora micrantha Vahl.
Rynchospora setacea (Berg.) Boeckl.

Common in Porto Rico:—southeastern Canada, Eastern United States, Bermuda.

28. **Uromyces Sabineae** Arth. Mycologia **9**: 69. 1917.

On *Sabinea punicea* Urban.

Known apparently only from the type locality, Maricao, Porto Rico. The host is endemic.

29. **Uromyces Salmeae** Arth. & Holw. Am. Jour. Bot. **5**: 445. 1918.

On *Salmea scandens* (L.) DC.

Two collections by Seaver and Chardon near Vega Alta and Toa Alta, Porto Rico, in 1923; these localities are the only stations known for this rust outside the type locality in Guatemala (Mycologia **16**: 48).

30. **Uromyces Scleriae** P. Henn. Hedwigia Beibl. **38**: 67. 1899.

Nigredo Scleriae Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Scleria canescens* Boeckl.
Scleria pterota Presl.

This rust sometimes occurs intermixed on the same plants with *Puccinia Scleriae*. Common on the last named host throughout Porto Rico:—Cuba, South America.

8. **PUCCINIA** Link, in Willd. Sp. Pl. **6**[2]: 67. 1825.

Teliospores free, pedicelled, two-celled, the wall colored; uredinia when present erumpent, without peridium; urediniospores borne singly on pedicels, the wall echinulate or verrucose, the pores one to several, variously arranged; aecia of the uredinoid type present in some species; heteroecious or autoecious.

1. **Puccinia aequinoctialis** Holway, Ann. Myc. **3**: 22. 1905.

On *Cydista aequinoctialis* (L.) Miers. (*Bignonia aequinoctialis* L.).

Referred by Arthur to *Puccinia cuticulosa* (Ellis & Ev.) Arth. in error (Mycologia **9**: 83. 1917).

The only record for this rust in Porto Rico is the collection by Whetzel & Olive No. *372*, near Martin Peña:—Trinidad, Cuba, South America.

2. **Puccinia angustatoides** Stone, Bull. Torrey Club **36:** 549. 1909.

Dicaeoma angustatoides Arth. N. Am. Fl. **7:** 351. 1920.

On *Rynchospora corymbosa* (L.) Britton (*Rynchospora aurea* Vahl).
Rynchospora cyperoides (Sw.) Mart.

Common in Porto Rico:—southern United States, Bahamas, Trinidad.

3. **Puccinia Arechavelatae** Speg. Anal. Soc. Ci. Argent. **12:** 67. 1881.

Micropuccinia Arechavelatae Arth. & Jackson, N. Am. Fl. **7:** 541. 1922.

On *Cardiospermum Halicacabum* L.
Cardiospermum microspermum. An error in spelling for *C. microcarpum* in Mycologia **7:** 236. 1915.
Cardiospermum microcarpum H.B.K.

Not commonly collected in Porto Rico:—southern United States, Mexico, Central America, Cuba, St. Vincent, Trinidad, Jamaica, Antigua, Bahamas, South America.

4. **Puccinia Arthurella** Trotter in Sacc. Syll. Fung. **23:** 694. 1925.

Uredo proximella Arth. Mycologia **7:** 324. 1915.
Puccinia proximella Arth. Bull. Torrey Club **47:** 471. 1920. Not *P. proximella* Syd, Ann. Myc. **10:** 215. 1912.
Dicaeoma proximella Arth. N. Am. Fl. **7:** 439. 1921.

On *Brachyramphus intybaceus* (Jacq.) DC. (*Lactuca intybacea* Jacq.).

Very rare in Porto Rico. Collected by Whetzel, Kern and Toro in Vieques;—Cuba and Santo Domingo.

5. **Puccinia Arthuriana** H. S. Jackson, Bot. Gaz. **65:** 295. 1918.

Argomyces Vernoniae Arth. N. Am. Fl. **7:** 218. 1912.
Bullaria Arthuriana Arth. & Mains, N. Am. Fl. **7:** 496. 1922.

On *Vernonia albicaulis* Pers.
Vernonia borinquensis Urban.
Vernonia sericea L. C. Rich. (*V. phyllostachya* Gleason).

This species may be identical with *P. insulana* which see.

Common in Porto Rico. Reported also from St. Croix:—Costa Rica, Bahamas, Central America.

Puccinia Blechi Lagerh.

See *Puccinia Ruelliae* (Berk. & Br.) Lagerh.

6. **Puccinia Cameliae** (Mayor) Arth. Mycologia **7:** 227. 1915.

Uredo Cameliae Mayor, Mem. Soc. Neuch. Sci. **5:** 578. 1913.
Dicaeoma Cameliae Arth. & Fromme, N. Am. Fl. **7:** 293. 1920.

On *Chaetochloa setosa* (Sw.) Scribn. (*Panicum setosum* Sw.).

Not known from Porto Rico. Collected by Stevens on Mona Island 1913:—Texas, Jamaica, South America.

7. **Puccinia canaliculata** (Schw.) Lagerh. Tromsö Mus. Aarsb. **17:** 51. 1894.

Sphaeria canaliculata Schw. Trans. Am. Phil. Soc. II. **4:** 209. 1832.
Dicaeoma canaliculatum Kuntze, Rev. Gen. **3**[3]: 466. 1898.

On *Cyperus articulatus* L. Reported by Stevenson, Jour. Dept. Agr. Porto Rico, **2:** 167.
Cyperus ferax L. C. Rich.
Cyperus giganteus Vahl.

Cyperus reticulatus L. An error in determination as this species is not recorded for Porto Rico.

Other hosts reported as bearing this species in Porto Rico are now to be found under *P. Cyperi* and *P. Cyperi-tagetiformis.*

Common in Porto Rico:—southeastern Canada, eastern United States, Mexico, Central America, Jamaica, Cuba.

8. **Puccinia Cannae** (Wint.) P. Henn. Hedwigia **41:** 105. 1902.

Uredo Cannae Wint. Hedwigia **23:** 172. 1884.
Puccinia Thaliae Diet. Hedwigia **38:** 250. 1899.
Dicaeoma (?) *Cannae* Arth. N. Am. Fl. **7:** 380. 1920.

On *Calathea lutea* (Aubl.) G. F. W. Meyer.
Canna coccinea Mill.
Canna glauca L.
Canna sp. (Cult.)
Thalia geniculata L.

Very common on species of *Canna* throughout Porto Rico:—Central America, Cuba, Trinidad, Jamaica, Santo Domingo.

9. **Puccinia Cenchri** Diet. & Holw.; Holway, Bot. Gaz. **24:** 28. 1897.

Dicaeoma Cenchri Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Cenchrus carolinianus* Walt. Citation of *C. pauciflorus* Benth. (N. Am. Fl. **7:** 294) apparently an error; does not occur in Porto Rico.
Cenchrus echinatus L.
Cenchrus viridis Spreng.

Very common in Porto Rico on *C. echinatus;* also found in Mona, Vieques and St. Croix:—southern United States, Central America, Bahamas, Cuba, Jamaica.

10. **Puccinia Chaetochloae** Arth. Bull. Torrey Club **34:** 585. 1907.

Uredo Chaetochloae Arth. Bull. Torrey Club **33:** 518. 1906.
Dicaeoma Chaetochloae Arth. & Fromme, N. Am. Fl. **7:** 288. 1920.

On *Paspalum glabrum* Poir. (*P. Helleri* Nash).
Paspalum orbiculatum Poir.
Paspalum secans Hitchc. & Chase.

This rust on these hosts formerly referred to *P. substriata.* Rare in Porto Rico:—southern Florida, Cuba, and Jamaica.

11. **Puccinia Cladii** Ellis & Tracy; Ellis & Ev. Bull. Torrey Club **22:** 61. 1895.

Dicaeoma Cladii Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Mariscus jamaicensis* (Crantz) Britton (*Cladium effusum* Torr.).

Known in Porto Rico from a single station Martin Peña:—southeastern United States, Bermuda.

12. **Puccinia concrescens** Ellis & Ev.; Arth. Mycologia **7:** 240. 1915.

Micropuccinia concrescens Arth. & Jackson; Arth. Bull. Torrey Club **48:** 40. 1921.

On *Asclepias curassavica* L.
Asclepias nivea L

A short cycle rust common in Porto Rico: sometimes occurring intermixed with *U. Howei:*—Bermuda, Cuba, Bahamas, and South America.

13. **Puccinia Conoclinii** Seym.; Burrill, Bot. Gaz. **9:** 191. 1884.

Puccinia rosea Arth. Bot. Gaz. **40:** 206. 1905 (in part).
Bullaria (?) *Conoclinii* Arth. & Mains, N. Am. Fl. **7:** 500. 1922.

On *Ageratum conyzoides* L.
Critonia portoricensis (Urban) Britton (*Eupatorium portoricensis* Urban).
Osmia geraniifolia (Urban) Britton & Wilson (*Eupatorium geraniifolium* Urban).
Eupatorium polyodon Urban.

Apparently not common in Porto Rico:—United States, Mexico, Central America, Cuba, South America, Hawaii.

14. **Puccinia consobrina** Arth. & Holw.; Arth. Mycologia **10:** 129. 1918.

Dicaeoma consobrinum Arth. N. Am. Fl. **7:** 352. 1920.

On *Rynchospora corymbosa* (L.) Britton.
A single collection of this rust, by Seaver and Chardon, is known from Porto Rico:—Central America, Jamaica.

15. **Puccinia Cordiae** (P. Henn.) Arth. Mycologia **8:** 17. 1916.

Uredo Cordiae P. Henn. Hedwigia **43:** 163. 1904.
Bullaria Cordiae Arth. & Mains, N. Am. Fl. **7:** 492. 1922.
On *Cerdana alliodora* R. & P. (*Cordia alliodora* Cham., *Gerascanthus*).
Not uncommon in Porto Rico:—Guatemala.

16. **Puccinia crassipes** Berk. & Curt. Grevillea **3:** 54. 1874.

Allodus crassipes Arth. Résult. Sci. Congr. Bot. Vienne 345. 1906.

On *Ipomoea triloba* L.
Rare in Porto Rico. Recorded also from Mona, St. Thomas, and St. Croix:—southern United States, Mexico, Central America, Cuba, South America.

Puccinia cuticulosa (Ellis & Ev.) Arth.

See *Puccinia aequinoctialis* Holw.

17. **Puccinia Cynodontis** Lacroix in Desmaz. Pl. Crypt. II. 655. 1859.

Dicaeoma Cynodontis Kuntze, Rev. Gen. **3**[3]: 468. 1898.
On *Capriola Dactylon* (L.) Kuntze (*Cynodon Dactylon* Pers.).
Aecidium on *Plantago* spp. in Europe and Japan, not yet found in America.
Apparently not common in Porto Rico:—southern United States, Central America, Europe, Asia, Africa, and Japan.

18. **Puccinia Cyperi** Arth. Bot. Gaz. **16:** 226. 1891.

Dicaeoma Cyperi Kuntze, Rev. Gen. **3**[3]: 466. 1898.
On *Cyperus cayennensis* (Lam.) Britton.
Kyllinga brevifolia Rottb.
Kyllinga pumila Michx.

Collections of this species in Porto Rico heretofore referred to *P. canaliculata*.
Apparently common in Porto Rico:—eastern United States, Mexico, Central America.

19. **Puccinia Cyperi-tagetiformis** (P. Henn.) Kern, Mycologia **11:** 138. 1919.

Uredo Cyperi-tagetiformis P. Henn. Bot. Jahrb. **34:** 598. 1905.
Dicaeoma Cyperi-tagetiformis Arth. N. Am. Fl. **7:** 346. 1920.
On *Cyperus brunneus* Sw.
Cyperus distans L. f.
Cyperus laevigatus L.
Cyperus odoratus L.

Cyperus radiatus Vahl.
Cyperus sphacelatus Rottb.
Cyperus surinamensis Rottb.

Collections of this species in Porto Rico heretofore referred to *P. canaliculata.*

Common in Porto Rico; also found in Vieques:—Texas, Japan, India, and the Philippine Islands.

20. **Puccinia deformata** Berk. & Curt.; Berk. Jour. Linn. Soc. **10:** 357. 1869.

Dicaeoma deformatum Kuntze, Rev. Gen. 3^3: 468. 1898.

On *Olyra latifolia* L.

Recorded in two collections by Stevens and one by Heller from Porto Rico (Mycologia **7:** 229):—Nicaragua, Cuba, Jamaica, Trinidad, South America.

21. **Puccinia Eleocharidis** Arth. Bull. Iowa Agr. Coll. Dept. Bot. **1884:** 156. 1884.

Dicaeoma Eleocharidis Kuntze, Rev. Gen. 3^3: 468. 1898.

On *Eleocharis capitata* (L.) R. Br. Error for *E. caribaea.*
Eleocharis caribaea (Rottb.) Blake
Eleocharis cellulosa Torr. The rust on this host is *Puccinia liberta* Kern.
Eleocharis flaccida (Reichenb.) Urban. The rust on this host is *Puccinia liberta* Kern.
Eleocharis geniculata (L.) R. & S. The rust on this host is *Puccinia liberta* Kern.
Eleocharis interstincta (Vahl) R. & S. The rust on this host is *Uredo incomposita* Kern.
Eleocharis mutata (L.) R. & S. The rust on this host is *Puccinia liberta* Kern.

Aecidium on *Eupatorium* spp. in the United States, not yet collected in Porto Rico. Uredo stage only.

Apparently rare in Porto Rico:—southern Canada, central and eastern United States, Cuba, Central America.

22. **Puccinia Emiliae** P. Henn. Hedwigia **37:** 278. 1898.

Micropuccinia Emiliae Arth. & Jackson, N. Am. Fl. **7:** 584. 1922.

On *Emilia sonchifolia* (L.) DC.
Neurolaena lobata (L.) R. Br.

Collections of this species heretofore have been referred to *Puccinia Synedrellae.*

Common in Porto Rico especially on *E. sonchifolia.* Also found in St. Croix and Antigua:—central United States and Florida, Central America, Cuba, Grenada, Jamaica, Martinique, Barbados, Trinidad.

23. **Puccinia eslavensis** Diet. & Holw.; Holway, Bot. Gaz. **24:** 29. 1897.

Dicaeoma eslavense Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Valota insularis* (L.) Chase.

This species has only recently been recognized from Porto Rico on this host. It appears to be largely confined to the mountain sections while *P. substriata* occurs on *Valota insularis* in the lowlands. Recorded also from St. Thomas:—southern United States, Central America.

Puccinia Euphorbiae P. Henn.

This species does not occur in this region. Specimens previously recorded under this name are now to be referred to *Puccinia velata* (Ellis & Ev.) Arth.

24. **Puccinia fallaciosa** Arth. Mycologia **9**: 84. 1917.

Uredo fallaciosa Arth. Mycologia **7**: 323. 1915.

On *Palicourea crocea* (Sw.) R. & S.
Palicourea riparia Benth.
Psychotria patens Sw.

A very inconspicuous rust. Probably common. Known only from Porto Rico.

Puccinia farinacea Long.

Specimens previously recorded under this name in this region are now to be referred to *Puccinia impedita* Mains & Holway. *P. farinacea* does not occur in this flora.

25. **Puccinia Fimbristylidis** Arth. Bull. Torrey Club **33**: 28. 1906.

Dicaeoma Fimbristylidis Arth. N. Am. Fl. **7**: 350. 1920.

On *Fimbristylis diphylla* (Retz.) Vahl.
Fimbristylis miliacea (L.) Vahl. Reported by Stevenson; specimens not examined.

Collections on *Fimbristylis spadicea* and *F. ferruginea* heretofore referred to this species belong under *Uredo superior* Arth.
Common in Porto Rico:—Texas, Mexico, Martinique.

26. **Puccinia** (?) **fuirenicola** Arth. Bull. Torrey Club **46**: 109. 1919. Not *P. Fuirenae* Cooke, 1878.

Uredo Fuirenae P. Henn. Hedwigia Beibl. **38**: 70. 1899.
Dicaeoma fuirenicola Arth. N. Am. Fl. **7**: 349. 1920.

On *Fuirena umbellata* Rottb.
Common in Porto Rico:—Cuba, South America, and India.

27. **Puccinia Gouaniae** Holw. Ann. Myc. **3**: 21. 1905.

Bullaria Gouaniae Arth. Mycologia **9**: 80. 1917.

On *Gouania lupuloides* (L.) Urban.
Gouania polygama (Jacq.) Urban.

Not to be confused with *P. invaginata* Arth. & Johnson (*Uredo Gouaniae* Ellis & Kelsey) on the same hosts.
Very common in Porto Rico. Reported also from St. Croix:—Central America, Cuba, Santo Domingo, Trinidad.

28. **Puccinia Heliconiae** (Diet.) Arth. Bull. Torrey Club **45**: 144. 1918.

Uredo Heliconiae Diet. Hedwigia **36**: 35. 1897.

On *Bihai Bihai* (L.) Griggs (*Bihai borinquena* Griggs).
Common where the host occurs in Porto Rico:—Panama, Martinique, Trinidad, South America.

29. **Puccinia heterospora** Berk. & Curt.; Berk. Jour. Linn. Soc. **10**: 356. 1869.

Uromyces Pavoniae Arth. Bull. Torrey Club **31**: 1. 1904.
Micropuccinia heterospora Arth. & Jackson; Arth. Bull. Torrey Club **48**: 41. 1921.

On *Abutilon hirtum* (Lam.) Sweet.
Abutilon indicum (L.) Sweet.
Abutilon umbellatum (L.) Sweet.
Malache scabra B. Vogel (*Pavonia racemosa* Sw., *P. spicata* Cav.).
Sida cordifolia L.

Sida glutinosa Comm.
Sida hederaefolia Cav. Probably *S. humilis*, Botany, Porto Rico and Virgin Islands **5**: 553.
Sida humilis Cav.
Sida procumbens Sw.
Sida spinosa L.
Sida urens L.
Wissadula amplissima (L.) R. E. Fries.
Wissadula periplocifolia (L.) Presl.

Very common in Porto Rico; found also in Vieques, St. Thomas and St. Croix:—United States, Mexico, Central America, Cuba, Trinidad, Jamaica, Santo Domingo, South America, Asia, Africa, Hawaii, and the Philippines.

Puccinia Huberi P. Henn.

See *Puccinia levis* (Sacc. & Bizz.) Magn.

The rust on *Paspalum virgatum* heretofore generally referred to *P. Huberi* belongs under *P. substriata* Ellis and Barth. For reduction of *P. Huberi* to synonym of *P. levis*, see Arthur, Proc. Am. Phil. Soc. **64**: 176. 1925.

30 **Puccinia Hydrocotyles** (Link) Cooke, Grevillea **9**: 14. 1880.

Caeoma Hydrocotyles Link in Willd. Sp. Pl. **6**[2]: 22. 1825.
Bullaria Hydrocotyles Arth. & Mains, N. Am. Fl. **7**: 489. 1922.
On *Hydrocotyle umbellata* L. Recorded by Stevenson on *Hydrocotyle australis* Coult. & Rose. Specimens not seen. Apparently an error as this host is not recorded from Porto Rico by Britton and Wilson.

Common in Porto Rico wherever the host occurs:—Maryland, Texas, California, Mexico, Central America, Trinidad, Bermuda, Hawaii, New Zealand, South America, Europe.

31. **Puccinia Hyptidis** (Curt.) Tracy & Earle, Bull. Miss. Agr. Exp. Sta. 34: 86. 1895.

Uredo Hyptidis Curt. Am. Jour. Sci. II. **6**: 353. 1848.
Dicaeoma Hyptidis Arth. N. Am. Fl. **7**: 408. 1921.
On *Hyptis capitata* Jacq. (*Mesosphaerum capitatum* Kuntze).

Found everywhere in Porto Rico; also in Vieques and St. Thomas:—southeastern United States, Cuba, Jamaica, Trinidad.

32. **Puccinia impedita** Mains & Holw.; Arth. Mycologia **10**: 135. 1918.

Bullaria impedita Arth. & Mains, N. Am. Fl. **7**: 493. 1922.
On *Salvia coccinea* Juss.
Salvia occidentalis Sw.

The specimens on *S. coccinea* have been generally referred erroneously to *Puccinia farinacea* Long; and those on *S. occidentalis* to *P. salviicola* Diet. & Holw. (see Mycologia **7**: 249, 1915; **8**: 24, 1916; **9**: 83, 1917).

Very common on both these hosts in Porto Rico; also known from St. Thomas, St. Croix and Vieques:—Mexico, Jamaica, Cuba, Trinidad, Central America, South America.

33. **Puccinia inclita** Arth. Bull. Torrey Club **46**: 115. 1919.

Dicaeoma inclitum Arth. & Fromme, N. Am. Fl. **7**: 289. 1920.
On *Ichnanthus pallens* (Sw.) Munro.
Oplismenus hirtellus (L.) Beauv.

Specimens on *Ichnanthus pallens* in this region have been heretofore generally referred to *Puccinia substriata;* on *Oplismenus hirtellus* to *Uredo Olyrae* P. Henn. in error (Mycologia **8**: 21. 1916).

Known only from Porto Rico.

34. **Puccinia inflata** Arth. Bull. Torrey Club **33**: 516. 1906.

Bullaria inflata Arth. & Mains, N. Am. Fl. **7**: 486. 1922.

On *Stigmaphyllon lingulatum* (Poir.) Small.

A very common and conspicuous rust in Porto Rico; also in Vieques and Mona:—Cuba.

35. **Puccinia insititia** Arth. Mycologia **7**: 248. 1915.

Dicaeoma insititium Arth. N. Am. Fl. **7**: 409. 1921.

On *Hyptis lantanifolia* Poit. (*Mesosphaerum lantanifolium* Kuntze).

Rare in Porto Rico:—Cuba, Brazil.

36. **Puccinia insulana** (Arth.) H. S. Jackson, Bot. Gaz. **65**: 296. 1918.

Argomyces insulanus Arth. Mycologia **7**: 179. 1915.
Bullaria insulana Arth. & Mains, N. Am. Fl. **7**: 496. 1922.

On *Vernonia albicaulis* Pers. Seems doubtfully to belong here, but rather under *P. Arthuriana*. If so *P. insulana* would go into synonomy (according to Arthur, mss. correction).

Apparently rare in Porto Rico; reported also from St. Croix and Antigua:—Guatemala, Jamaica.

37. **Puccinia invaginata** Arth. & Johnston, Mem. Torrey Club **17**: 146. 1918.

Uredo Gouaniae Ellis & Kelsey, Bull. Torrey Club **24**: 209. 1897.
Bullaria invaginata Arth. & Mains, N. Am. Fl. **7**: 488. 1922.

On *Gouania lupuloides* (L.) Urban (*G. domingensis* L.).
Gouania polygama (Jacq.) Urban.

Not to be confused with *P. Gouaniae* Holway on the same hosts. Not common in Porto Rico. Recorded from St. Thomas and St. Croix:—Guatemala, Cuba, Trinidad, Central America, South America.

38. **Puccinia Kaernbachii** (P. Henn.) Arth. Bull. Torrey Club **46**: 110. 1919.

Uredo Kaernbachii P. Henn. Bot. Jahrb. **18**: Beibl. 44: 23. 1894.
Uredo venustula Arth. Mycologia **8**: 21. 1916.
Puccinia venustula Arth. Mycologia **10**: 128. 1918.
Dicaeoma Kaernbachii Arth. & Fromme, N. Am. Fl. **7**: 283. 1920.

On *Schizachyrium brevifolium* (Sw.) Nees, (*Andropogon brevifolius* Sw.).

But two collections known from Porto Rico:—Florida, Mexico, Central America, New Britain Islands.

39. **Puccinia Lantanae** Farl. Proc. Am. Acad. **18**: 83. 1883.

Micropuccinia Lantanae Arth. & Jackson; Arth. Bull. Torrey Club **48**: 41. 1921.

On *Lantana aculeata* L.
Lantana Camara L.
Lantana involucrata L. (*L. odorata* L.).

Several records from Porto Rico; also in Vieques, St. Thomas and Mona:—Florida, Mexico, Central America, Cuba, Jamaica, Haiti, Bermuda, Trinidad.

40. **Puccinia laterita** Berk. & Curt. Jour. Phila. Acad. Sci. **2**: 281. 1853.

Micropuccinia lateritia Arth. & Jackson; Arth. Bull. Torrey Club **48**: 41. 1921.

On *Borreria laevis* (Lam.) Griseb.
Borreria verticillata (L.) G. F. W. Meyer.
Diodia littoralis Sw. Error for *Ernodea littoralis* Sw.
Diodia maritima Thonn.

Diodia rigida C. & S.
Ernodea littoralis Sw.
Mitracarpus portoricensis Urban.
Spermacoce riparia C. & S.
Spermacoce tenuior L.

Very common in Porto Rico. Recorded also from St. Croix, Vieques, and Mona:—southern United States, Mexico, Central America, Jamaica, Cuba, Haiti, Bahamas, South America.

41. **Puccinia Leonotidis** (P. Henn.) Arth. Mycologia **7**: 245. 1915.

Uredo Leonotidis P. Henn. in Engler, Pfl. Ost.-Afr. **C**: 52. 1895.
Dicaeoma Leonotidis Arth. N. Am. Fl. **7**: 407. 1921.

On *Leonotis nepetaefolia* (L.) R. Br.

Very common in Porto Rico; found also in Vieques, St. Thomas and St. Croix:—Cuba, Bahamas, Jamaica, Trinidad, Santo Domingo, South America, Africa.

42. **Puccinia levis** (Sacc. & Bizz.) Magn. Ber. Deuts. Bot. Ges. **9**: 190. 1891.
See note under *P. Huberi*.

Diorchidium leve Sacc. & Bizz.; Sacc. Michelia **2**: 648. 1882.
Puccinia Huberi P. Henn. Hedwigia Beibl. **39**: 76. 1900.
Puccinia Puttemansii P. Henn. Hedwigia **41**: 105. 1902.
Dicaeoma leve Arth. & Fromme, N. Am. Fl. **7**: 286. 1920.

On *Panicum adspersum* Trin.
Panicum fasciculatum Sw.
Panicum maximum Jacq.
Panicum trichoides Sw.
Panicum utowanaeum Scribn.
Paspalum fimbriatum H.B.K.
Paspalum millegrana Schrad.
Paspalum plicatulum Michx.
Rytilix granularis (L.) Skeels.

Not uncommon in Porto Rico, also recorded from Mona, St. Croix and Antigua:—southern United States, Mexico, Cuba, Central America, Guadeloupe, Martinique, northern South America.

43. **Puccinia liberta** Kern, Mycologia **11**: 142. 1919.

Dicaeoma libertum Arth. N. Am. Fl. **7**: 348. 1920.

On *Eleocharis cellulosa* Torr. Previously recorded under *Puccinia Eleocharidis*.
Eleocharis flaccida (Reichenb.) Urban.
Eleocharis geniculata (L.) R. & S. Previously recorded under *Puccinia Eleocharidis*.
Eleocharis mutata (L.) R. & S. Previously recorded under *Puccinia Eleocharidis*.

Common in Porto Rico:—southern California, Central America.

44. **Puccinia Lithospermi** Ellis & Kellerm. Jour. Myc. **1**: 2. 1885.

Dicaeoma Lithospermi Kuntze, Rev. Gen. **3**[3]: 469. 1898.

On *Evolvulus nummularius* L.
Evidently rare in Porto Rico:—United States, Japan.

45. **Puccinia medellinensis** Mayor, Mem. Soc. Neuch. Sci. Nat. **5**: 497. 1913.
Dicaeoma medellinense Arth. N. Am. Fl. **7**: 408. 1921.

On *Hyptis pectinata* (L.) Poit. (*Mesosphaerum pectinatum* Poit.).
Hyptis suaveolens (L.) Poit. (*Mesosphaerum suaveolens* Kuntze).

Common in Porto Rico:—Central America, Cuba, Jamaica, South America.

46. **Puccinia Melampodii** Diet. & Holw.; Holw. Bot. Gaz. **24**: 32. 1897.

Puccinia Synedrellae P. Henn. Hedwigia **37**: 277. 1898.
Micropuccinia Melampodii Arth. & Jackson, N. Am. Fl. **7**: 581. 1922.

On *Eleutheranthera ruderalis* (Sw.) Sch.-Bip.
Emilia sonchifolia (L.) DC. The rust on this host is *Puccinia Emiliae* P. Henn.
Neurolaena lobata (L.) R. Br. The rust on this host is *Puccinia Emiliae* P. Henn.
Synedrella nodiflora (L.) Gaertn.

Very common in Porto Rico. Also recorded from Tortola, St. Thomas, St. Croix and Vieques:—Texas, Mexico, Cuba, Jamaica, Santo Domingo, Martinique, Haiti, Barbados, Grenada.

47. **Puccinia obliqua** Berk. & Curt.; Berk. Jour. Linn. Soc. **10**: 356. 1869.

Micropuccinia obliqua Arth. & Jackson; Arth. Bull. Torrey Club **48**: 42. 1921.

On *Metastelma lineare* Bello.
Metastelma parviflorum R. Br.

Rather rare in Porto Rico. Reported from St. Croix and St. Thomas:—southern United States, Mexico, Central America, Isle of Pines, Cuba, Martinique, Bahamas, Trinidad, Jamaica, South America.

48. **Puccinia offuscata** Arth. Bull. Torrey Club **47**: 469. 1920. Not *P. Zorniae* McAlpine. 1906.

Uredo Zorniae Diet. Hedwigia **38**: 257. 1899.
Bullaria (?) *Zorniae* Arth. Bull. Torrey Club **49**: 190. 1922.

On *Zornia diphylla* (L.) Pers.
Rare in Porto Rico:—Florida, Cuba, South America.

49. **Puccinia opulenta** Speg. Anal. Soc. Ci. Argent. **9**: 170. 1880.

Allodus opulenta Orton, Mem. N. Y. Bot. Gard. **6**: 195. 1916.

On *Exogonium arenarium* Choisy (*Ipomoea arenaria* Steud.).
Known in St. Thomas from a single collection by J. N. Rose (Mycologia **16**: 11):—South America.

50. **Puccinia Ormosiae** Arth. Mycologia **9**: 78. 1917.

Dicaeoma Ormosiae Arth. N. Am. Fl. **7**: 391. 1920.

On *Ormosia Krugii* Urban.
Known only from Porto Rico in the collections of Whetzel and Olive.

51. **Puccinia pallescens** Arth. Bull. Torrey Club **46**: 111. 1919. Not *Puccinia pallida* Tracy, 1893.

Uredo pallida Diet. & Holw. Bot. Gaz. **24**: 37. 1897.
Dicaeoma pallescens Arth. & Fromme, N. Am. Fl. **7**: 278. 1920.

On *Zea Mays* L.
Probably common in Porto Rico (see Stevenson Jour. Dept. Agr. Porto Rico **2**: 181):—in Mexico and Central America on species of *Tripsacum* where teliospores have been found (see Bull. Torrey Club **46**: 111–112. 1919).

52. **Puccinia phakopsoroides** Arth. & Mains, Bull. Torrey Club **46**: 412. 1919.

Dicaeoma phakopsoroides Arth. & Fromme, N. Am. Fl. **7**: 295. 1920.

On *Olyra latifolia* L.
Known in Porto Rico by three collections by Stevens and one by Heller:—Cuba.

53. **Puccinia Plucheae** (Syd.) Arth. Bull. Torrey Club **49**: 194. 1922.

Uredo Plucheae Syd. Ann. Myc. **1**: 333. 1903.
Uredo biocellata Arth. Bull. Torrey Club **33**: 517. 1906.

On *Pluchea odorata* (L.) Cass.
Pluchea purpurascens (Sw.) DC.

Uncommon in Porto Rico; also reported by Stevens from Mona:—Florida, Guatemala, Santo Domingo, South America.

54. **Puccinia Polygoni-amphibii** Pers. Syn. Fung. 227. 1801.

Dicaeoma Polygoni-amphibii Arth. Proc. Ind. Acad. Sci. **1898**: 184. 1899.

On *Persicaria portoricensis* (Bert.) Small (*Polygonum portoricense* Bert.).
Persicaria punctata (Ell.) Small (*Polygonum punctatum* Ell., *Polygonum acre* H.B.K.).

The aecia which occur on *Geranium* spp., are not known from Porto Rico.
Very common in Porto Rico along streams:—throughout North America; also in Cuba, South America, Central America, Europe, Africa, India, China and Japan.

Puccinia proximella Arth.

See *Puccinia Arthurella* Trotter.

55. **Puccinia Psidii** Wint. Hedwigia **23**: 171. 1884.

Bullaria (?) *Psidii* Arth. & Mains, N. Am. Fl. **7**: 488. 1922.

On *Jambos Jambos* (L.) Millsp. (*Eugenia Jambos* L., *J. vulgaris* DC.).
Psidium Guajava L.

Exceedingly common in Porto Rico on *J. Jambos*:—Cuba, South America.

56. **Puccinia purpurea** Cooke, Grevillea **5**: 15. 1876.

Dicaeoma purpureum Kuntze, Rev. Gen. 3^3: 470. 1898.

On *Holcus Sorghum* L.
Holcus halepensis L.

Rare in Porto Rico:—southern United States, Central America, Cuba, Trinidad, Jamaica, Bermuda, South America, Europe, Asia, Northern Africa, Hawaii.

Puccinia Raunkaerii Ferd. & Winge.

See *Puccinia Rivinae* (Berk. & Curt.) Speg.

57. **Puccinia Rivinae** (Berk. & Curt.) Speg. Anal. Mus. Nac. Buenos Aires **19**: 304. 1909.

Aecidium Rivinae Berk. & Curt.; Berk. Jour. Linn. Soc. **10**: 358. 1869.
Endophyllum Rivinae Arth. N. Am. Fl. **7**: 126. 1907.
Puccinia Raunkaerii Ferd. & Winge, Bot. Tidsskr. **29**: 8. 1908.
Dicaeoma Rivinae Arth. N. Am. Fl. **7**: 388. 1920.

On *Rivina humilis* L.
Trichostigma octandrum (L.) H. Walt. (*Rivina octrandra* L.).

Aecia forming large galls on stems of both hosts, but especially on *T. octandrum*.
Common on *T. octandrum* in Porto Rico. Recorded from St. Thomas:—Cuba, South America.

Puccinia rosea (Diet. & Holw.) Arth.

See *Puccinia Conoclinii* Seym.

58. **Puccinia Ruelliae** (Berk. & Br.) Lagerh. Tromsö Mus. Aarsb. **17**: 71. 1895.

Uredo Ruelliae Berk. & Br. Jour. Linn. Soc. **14**: 92. 1873.
Puccinia Blechi Lagerh.; Pat. & Lagerh. Bull. Soc. Myc. Fr. **11**: 214. 1895.
Dicaeoma Ruelliae Kuntze, Rev. Gen. **3**^{3}: 470. 1898.

On *Blechum Blechum* (L.) Millsp. (*Blechum Brownei* Juss.).
Stethoma pectoralis (Jacq.) Raf. (*Dianthera pectoralis* Gmel.).

Common in Porto Rico, St. Croix, St. Thomas and Vieques:—southeastern United States, Central America, Cuba, Martinique, Trinidad, Jamaica, Guatemala.

Puccinia salviicola Diet. & Holw.

See *Puccinia impedita* Mains & Holw.

59. **Puccinia Scirpi** DC. Fl. Fr. **2**: 223. 1805.

Dicaeoma Scirpi S. F. Gray, Nat. Arr. Brit. Pl. **1**: 542. 1821.

On *Scirpus validus* Vahl (*Scirpus lacustris* Bert. not L.).
Aecia on *Nymphoides Grayanum* (Griseb.) Arth. (*Limnanthemum Grayanum* Griseb.) in Cuba (see N. Am. Fl. **7**: 342), not known from Porto Rico.

Known in Porto Rico from a single collection on *Scirpus* by Heller at Guanica 1902:—Cuba, Bermuda, Europe.

60. **Puccinia Scleriae** (Paz.) Arth. Mycologia **9**: 75. 1917.

Rostrupia Scleriae Paz. Hedwigia **31**: 96. 1892.
Aecidium passifloriicola P. Henn. Hedwigia **43**: 168. 1904.
Dicaeoma Scleriae Arth. N. Am. Fl. **7**: 349. 1920.

On *Passiflora rubra* L.
Scleria cubensis Boeckl.
Scleria pterota Presl.

Aecia on *Passiflora rubra* L., recorded from Mayaguez during March and April. Uredinia and telia common on *Scleria* in Porto Rico. Recorded on *S. pterota* from St. Thomas:—Panama, South America, Trinidad.

61. **Puccinia scleriicola** Arth. Mycologia **7**: 232. 1915.

Dicaeoma scleriicola Arth. N. Am. Fl. **7**: 350. 1920.

On *Scleria hirtella* Sw. The rust collections on this host from Porto Rico are doubtfully referred to this species (Mycologia **9**: 97); may belong to *Puccinia Scleriae*.
Scleria sp.

Apparently rare in Porto Rico:—southeastern United States, Cuba.

62. **Puccinia Smilacis** Schw. Schr. Nat. Ges. Leipzig **1**: 72. 1822.

Dicaeoma Smilacis Kuntze, Rev. Gen. **3**^{3}: 470. 1898.

On *Smilax domingensis* Willd.

Known from but two stations in Porto Rico:—eastern United States, Mexico, Cuba, Jamaica, Trinidad.

63. **Puccinia Sorghi** Schw. Trans. Am. Phil. Soc. II. **4**: 295. 1832.

Aecidium oxalidis Thüm. Flora **59**: 425. 1876.

On *Zea Mays* L.

A collection by Clinton, 1904, *130*, and one by C. M. Tucker, 1923, *286*, only, are known from Porto Rico. Common in United States and Canada. Known also from Mexico, Central America, Cuba, South America, Europe, and Africa.

64. **Puccinia Spegazzinii** De-Toni, in Sacc. Syll. Fung. **7**: 704. 1888.

Puccinia Melothriae Stevens, Bot. Gaz. **43**: 283. 1907.
Micropuccinia Spegazzinii Arth. & Jackson; Arth. Bull. Torrey Club **48**: 41. 1921.

On *Mikania congesta* DC. (*Mikania scandens* of authors, not Willd.).

Rare in Porto Rico; known from a single collection at Mayaguez by Whetzel and Olive:—southern United States, Central America, South America, Cuba, Martinique, Trinidad.

65. **Puccinia striolata** Speg. Anal. Soc. Ci. Argent. **10**: 8. 1880.

Uredo striolata Speg. Anal. Soc. Ci. Argent. **9**: 173. 1880.
Puccinia macropoda (Speg.) Arth. Mem. Torrey Club **17**: 142. 1918.
Dicaeoma striolatum Arth. N. Am. Fl. **7**: 387. 1920.

On *Iresine angustifolia* Euph. (*I. elatior* Rich.).

Rare in Porto Rico. Reported from St. Thomas:—Cuba, Trinidad, South America.

66. **Puccinia substriata** Ellis & Barth. Erythea **5**: 47. 1897.

Dicaeoma substriatum Arth. Résult. Sci. Congr. Bot. Vienne 344. 1906.

On *Chaetochloa geniculata* (Lam.) Millsp. & Chase (*C. imberbis* Scribn.).
Eriochloa subglabra (Nash) Hitchc.
Ichnanthus pallens (Sw.) Munro (*Panicum pallens* Sw.). Previous records on this host are to be referred to *P. inclita* Arth.
Paspalum glabrum Poir. (*Paspalum Helleri* Nash). Previous records on this host now referred to *Puccinia Chaetochloae* Arth.
Paspalum orbiculatum Poit. Previous records on this host now referred to *Puccinia Chaetochloae* Arth.
Paspalum portoricense Nash. Reported by Stevenson, Jour. Dept. Agr. Porto Rico **2**: 173.
Paspalum virgatum L. The rust on this host has usually heretofore been referred to *P. Huberi* under which see note.
Syntherisma digitata (Sw.) Hitchc. Previous records on this host to be referred to *P. tubulosa* (Pat. & Gaill.) Arth.
Valota insularis (L.) Chase. Previous records on this host to be referred to *P. tubulosa* (Pat. & Gaill.) Arth.

Inconspicuous; probably common in Porto Rico; also in Vieques:—southeastern United States, Central America, Cuba, Jamaica, Trinidad.

Puccinia Synedrellae P. Henn.

See *Puccinia Melampodii* Diet. & Holw.

67. **Puccinia tageticola** Diet. & Holw.; Holway, Bot. Gaz. **24**: 26. 1897.

On *Tagetes erecta* L.
Tagetes patula L. (*T. tenuifolia* H.B.K.).

Occasionally in Gardens in Porto Rico:—Mexico, Central America, South America.

68. **Puccinia tubulosa** (Pat. & Gaill.) Arth. Am. Jour. Bot. **5**: 464. 1918.

Aecidium tubulosum Pat. & Gaill. Bull. Soc. Myc. Fr. **4**: 97. 1888.
Uredo paspalicola P. Henn. Hedwigia **44**: 57. 1905.
Uredo Stevensiana Arth. Mycologia **7**: 326. 1915.
Dicaeoma tubulosum Arth. & Fromme, N. Am. Fl. **7**: 288. 1920.

On *Axonopus compressus* (Sw.) Beauv.
Paspalum conjugatum Berg.
Paspalum paniculatum L. (See under *Puccinia substriata*.).

Paspalum plicatulum Michx.
Solanum torvum Sw.
Syntherisma digitata (Sw.) Hitchc. (See under *Puccinia substriata.*).
Valota insularis (L.) Chase. (See under *Puccinia substriata.*).

Aecidia are exceedingly common on *S. torvum* throughout Porto Rico as are also the forms on the grass hosts. Also in Vieques:—Texas, Central America, Cuba, South America, and Asia.

69. **Puccinia Urbaniana** P. Henn. Hedwigia **37:** 278. 1898.

Micropuccinia Urbaniana Arth. & Jackson, N. Am. Fl. **7:** 558. 1922.

On *Valerianoides cayennense* (L. C. Rich.) Kuntze Reported by Stevenson, Jour. Dept. Agr. Porto Rico, **2:** 174.
Valerianoides jamaicense (L.) Kuntze (*Stachytarpheta jamaicensis* Vahl).
Valerianoides strigosum (Vahl) Britton (*Stachytarpheta strigosa* Vahl).

One of the most common short cycle rusts in Porto Rico; also in Vieques, Mona, St. Thomas, and St. Croix:—Florida, Central America, Jamaica, Bahamas, Cuba, South America.

70. **Puccinia velata** (Ellis & Ev.) Arth. Am. Jour. Bot. **5:** 472. 1918.

Uredo velata Ellis & Ev. Bull. Torrey Club **22:** 435. 1895.
Puccinia Euphorbiae minor Holway, Bot. Gaz. **24:** 31. 1897.
Bullaria velata Arth. & Mains, N. Am. Fl. **7:** 487. 1922.

On *Aklema petiolare* (Sims) Millsp. (*Euphorbia petiolaris* Sims).
Formerly referred to *Puccinia Euphorbiae* P. Henn. in error. Known in this flora only from Mona and St. Thomas:—Mexico, Hawaii, Guatamala.

71. **Puccinia Xanthii** Schw. Schr. Nat. Ges. Leipzig **1:** 73. 1822.

Micropuccinia Xanthii Arth. & Jackson; Arth. Bull. Torrey Club **48:** 42. 1921.

On *Xanthium chinense* Mill. (*Xanthium longirostre* Wallr.).
A single collection recorded by Stevenson from Porto Rico near Santurce:—United States, Mexico, Cuba, Santo Domingo, Hawaii.
Puccinia Zorniae Arth. see *Puccinia offuscata* Arth.

9. **AECIDIUM** (Form Genus).

Sori erumpent; the spore mass usually surrounded by a peridium which may be cupulate, firm or evanescent; the spores catenulate, one-celled, the wall usually colorless, the pores rarely visible. Here are included unattached aecial stages or unrecognized species of *Endophyllum.*

1. **Aecidium abscedens** Arth. Mycologia **7:** 315. 1915.

On *Randia mitis* L. (*Randia aculeata* L.).
Field observations indicate that this may be the aecial stage of *Uromyces leptodermus* Syd. (Mycologia **18:** 43. 1926).
Very common throughout Porto Rico:—Mexico, Central America.

2. **Aecidium Borreriae** Pat.; Duss. Enum. Champ. Guad. 7. 1903.

On *Hemidiodia ocimifolia* (Willd.) K. Schum. (*Spermacoce ocimifolia* Willd.).
Systemic, often badly parasitized.
Not uncommon in Porto Rico:—Guadeloupe, South America.

Aecidium circumscriptum Schw.

See *Endophyllum circumscriptum* (Schw.) Whetzel & Olive.

Aecidium decoloratum Schw.

See *Endophyllum decoloratum* (Schw.) Whetzel & Olive.

Aecidium expansum Arth. not Diet.

See *Endophylloides portoricensis* Whetzel & Olive.

3. **Aecidium favaceum** Arth. Mycologia **7:** 254. 1915.

On *Margaritaria nobilis* L.f. (*Phyllanthus nobilis* (L. f.) Müll.-Arg.).
Several collections from Porto Rico; not known elsewhere.

Aecidium passifloriicola P. Henn.

See *Puccinia Scleriae* (Paz.) Arth.

Aecidium Stachytarphetae P. Henn.

See *Endophyllum Stachytarphetae* (P. Henn.) Whetzel & Olive.

4. **Aecidium Tournefortiae** P. Henn. Hedwigia **34:** 338. 1895.

On *Tournefortia bicolor* Sw.
Tournefortia hirsutissima L.
Tournefortia microphylla Bert. The rust reported on this host (Mycologia **9:** 88) as *Aecidium Tournefortiae* is *Uromyces dolichosporus* Diet. & Holw.
Rather rare in Porto Rico:—Cuba, Panama and South America.

Aecidium tubulosum Pat. & Gaill.

See *Puccinia tubulosa* (Pat. & Gaill.) Arth.

Aecidium Wedeliae Earle.

See *Endophyllum decoloratum* (Schw.) Whetzel & Olive.

10. **UREDO** (Form Genus).

Uredinia erumpent, sometimes surrounded by peridium or paraphyses; the spores pedicellate, one-celled, the wall colored or colorless, echinulate or verrucose, the pores usually evident, variously disposed.

Uredo Aeschynomenis Arth.

See *Phakopsora Aeschynomenis* Arth.

1. **Uredo Anthurii** (Hariot) Sacc. Syll. Fung. **11:** 229. 1895.

Caeoma Anthurii Hariot, Jour. de Bot. **6:** 458. 1892.
On *Anthurium scandens* (Aubl.) Engler.
A single collection from Porto Rico by Stevens. Otherwise only from a greenhouse in France.

Uredo Arachidis Lagerh.

See *Uromyces Arachidis* (Speg.) P. Henn.

2. **Uredo Artocarpi** Berk. & Br., Jour. Linn. Soc. **14:** 93. 1873.

Physopella (?) *Artocarpi* Arth. N. Am. Fl. **7:** 103. 1907.
On *Artocarpus communis* Forst.
Apparently rather rare in Porto Rico:—Cuba, India.

Uredo biocellata Arth.

See *Puccinia Plucheae* Syd.

3. **Uredo Bixae** Arth. Mycologia **7**: 327. 1915.

On *Bixa Orellana* L.
Known only from Porto Rico.

4. **Uredo Borreriae** (P. Henn.) Kern & Whetzel, Mycologia **18**: 42. 1926.

Uromyces Borreriae P. Henn. Hedwigia **35**: 227. 1896.

On *Borreria verticillata* (L.) G. F. W. Meyer.
But two collections of this rust are known from Porto Rico, both by Seaver and Chardon from near Rio Piedras. The sori occur intermixed with those of *Puccinia lateritia* Berk. & Curt.—South America.

5. **Uredo Buchenaviae** Kern & Whetzel, Mycologia **18**: 41. 1926.

On *Buchenavia capitata* (Vahl) Eichl.
Known only from the type locality near Guaynabo, Porto Rico.

Uredo Cabreriana Kern & Kellerm.

See *Dicheirinia binata* (Berk.) Arth.

Uredo Cameliae Mayor.

See *Puccinia Cameliae* (Mayor) Arth.

Uredo capituliformis P. Henn.

See *Olivea capituliformis* (P. Henn.) Arth.

6. **Uredo Campeliae** Kern & Whetzel, Mycologia **18**: 40. 1926.

On *Campelia Zanonia* (L.) H.B.K.
Known only from the type locality, near Villalba, Porto Rico.

7. **Uredo Clusiae** Arth. Mycologia **9**: 91. 1917.

On *Clusia rosea* Jacq.
Known only from the type locality, Maricao, Porto Rico.

8. **Uredo Coccolobae** P. Henn. Hedwigia **35**: 253. 1896.

On *Coccolobis uvifera* (L.) Jacq.
Not uncommon in Porto Rico and Vieques:—Cuba, South America.

Uredo Commelyneae Kalchbr.

See *Phakopsora tecta* Jackson & Holw.

Uredo concors Arth.

See *Phakopsora Vignae* (Bres.) Arth.

9. **Uredo Cupheae** P. Henn. Hedwigia **34**: 99. 1895.

On *Parsonsia Parsonsia* (L.) Britton (*Cuphea Parsonsia* R. Br.).
Several collections from Porto Rico:—Cuba and South America.

10. **Uredo Dichromenae** Arth. Bull. Torrey Club **33:** 31. 1906.

Dicaeoma (?) *Dichromenae* Arth., N. Am. Fl. **7:** 351. 1920.

On *Dichromena ciliata* Vahl.
Dichromena radicans Cham. & Schl.

Rather common in Porto Rico:—Jamaica, South America.

11. **Uredo Dioscoreae** P. Henn. Hedwigia **35:** 255. 1896.

On *Dioscorea polygonoides* H. & B.
Rajania cordata L.

U. Dioscoreae is now considered a synonym of *Sphenospora pallida* (Wint.) Diet. The Porto Rican specimens may be erroneously referred here (see Mycologia **18:** 157–159, 1926).

Not uncommon in Porto Rico:—Cuba, South America, Asia.

12. **Uredo Erythroxylonis** Graz. Bull. Soc. Myc. Fr. **7:** 152. 1891.

On *Erythroxylon areolatum* L.
Erythroxylon brevipes DC.

Rare, in Porto Rico, Mona, and St. Croix:—Cuba, South America.

Uredo fallaciosa Arth.

See *Puccinia fallaciosa* Arth.

Uredo farinosa P. Henn. Hedwigia **36:** 216. 1897.

On *Ocotea leucoxylon* (Sw.) Mez.

Known in Porto Rico from a single locality in mountains above Yauco:—South America.

This fungus causes striking dusty brown deformations of the inflorescence of this tree host. It has been referred by Patouillard to the imperfect fungi under the name *Clinoconidium farinosum* (Bull. Soc. Myc. Fr. **14:** 156. See also Mycologia **18:** 43. 1926).

Uredo fenestrala Arth.

See *Phakopsora fenestrala* Arth.

Uredo Fuirenae P. Henn.

See *Puccinia fuirenicola* Arth.

Uredo globulosa Arth.

See *Uromyces affinis* Wint.

Uredo Gouaniae Ellis & Kelsey.

See *Puccinia invaginata* Arth. & Johnston.

13. **Uredo Guacae** Mayor, Mem. Soc. Neuch. Sci. Nat. **5:** 583. 1913.

On *Amphiglottis difformis* (Jacq.) Britton (*Epidendrum difforme* Jacq.).
Amphiglottis corymbosa (Lindl.) Britton (*Epidendrum corymbosum* Lindl.). In herb. N. Y. Bot. Gard. *2305.*
Spathiger rigidus (Jacq.) Small (*Epidendrum rigidum* Jacq.).

Rare in Porto Rico:—South America.

14. **Uredo guaynabensis** Kern & Whetzel, Mycologia **18:** 41. 1926.

On *Jussiaea angustifolia* Lam.
Known in Porto Rico only from the type locality, near Guaynabo:—Isle of Pines and Jamaica.

Uredo Gymnogrammes P. Henn.

See *Desmella superficialis* (Speg.) Syd.

15. **Uredo Gynandrearum** Corda, Ic. Fung. **3:** 3. 1839.

On *Habenaria maculosa* Lindl.
Prescottia oligantha (Sw.) Lindl.

Rare in Porto Rico:—Cuba, Jamaica, South America.

16. **Uredo Hameliae** Arth. Mycologia **8:** 23. 1916.

On *Hamelia erecta* Jacq. (*H. patens* Jacq.).
Rare in Porto Rico:—Costa Rica.

Uredo Heliconiae Diet.

See *Puccinia Heliconiae* (Diet.) Arth.

17. **Uredo Hymenaeae** Mayor, Mem. Soc. Neuch. Sci. Nat. **5:** 585. 1913.

On *Hymenaea Courbaril* L.
Several collections from Porto Rico:—Cuba and South America.

18. **Uredo ignava** Arth. Bull. Torrey Club **46:** 121. 1919.

Dicaeoma ignavum Arth. & Fromme, N. Am. Fl. **7:** 341. 1920.
Puccinia (?) *ignava* Arth. Mycologia **14:** 17. 1922.

On *Bambos vulgaris* Schrad.
Fairly common Porto Rico:—Cuba and Jamaica.

19. **Uredo incomposita** Kern, Mycologia **11:** 143. 1919.

Dicaeoma incompositum Arth. N. Am. Fl. **7:** 348. 1920.

On *Eleocharis geniculata* (L.) R. Br. This report in Mycologia **11:** 143 is an error in host determination.
Eleocharis interstincta (Vahl) R. & S.

Rather rare in Porto Rico:—Guatemala.

20. **Uredo jatrophicola** Arth. Mycologia **7:** 331. 1915.

On *Adenoropium gossypifolium* (L.) Pohl. (*Jatropha gossypifolia* L.).
Curcas Curcas (L.) Britton & Millsp. (*Jatropha Curcas* L.).

Common in Porto Rico, also in Vieques and St. Croix:—Cuba, Santo Domingo.

21. **Uredo laeticolor** Arth. Bull. Torrey Club **47:** 473. 1920.

Uredo Operculinae Arth. Mycologia **9:** 95. 1917. Not *U. Operculinae* Sydow. 1913.

On *Ipomoea dissecta* (Jacq.) Pursh. (*Operculina dissecta* House).
Rather rare in Porto Rico:—Cuba and Philippines.

22. **Uredo lutea** Arth. Mycologia **7**: 321. 1915.

On *Cassia quinquangulata* L. C. Rich. Error for *Chamaefistula antillana* Britton & Rose).
Chamaefistula antillana Britton & Rose.

Rare in Porto Rico; not known elsewhere.

23. **Uredo nigropuncta** P. Henn. Hedwigia **35**: 254. 1896.

Uredo Cyrtopodii Syd. Bull. Herb. Boiss. II. **1**: 77. 1901.

On *Bletia patula* Hook.
Rare in Porto Rico:—Cuba, Haiti, Bahamas, South America.

Uredo notata Arth.

See *Crossopsora notata* Arth.

Uredo Olyrae P. Henn.

See *Puccinia inclita* Arth.

Uredo paspalicola P. Henn.

See *Puccinia tubulosa* (Pat. & Gaill.) Arth.
Specimens on *Bambos vulgaris* formerly called by this name now determined to be *Uredo ignava* Arth.

24. **Uredo Piperis** P. Henn. Hedwigia Beibl. **38**: 70. 1899.

On *Peperomia hernandifolia* (Vahl) A. Dietr.
Rare in Porto Rico:—South America.

Uredo Plucheae Syd.

See *Puccinia Plucheae* (Syd.) Arth.

Uredo proximella Arth.

See *Puccinia Arthurella* Trotter & Sacc.

25. **Uredo pustulata** P. Henn. Hedwigia Beibl. **35**: 129. 1899.

On *Stenorrhynchus lanceolatus* (Aubl.) Griseb.
Rare in Porto Rico:—South America.

26. **Uredo rubescens** Arth. Mycologia **7**: 327. 1915.

On *Dorstenia Contrajerva* L.
Rare in Porto Rico:—Guatemala, Salvador, South America, Panama, Trinidad.

27. **Uredo Rousseliae** Kern & Whetzel, Mycologia **18**: 40. 1926.

On *Rousselia humilis* (Sw.) Urban.
Known only from the type locality, near Villalba, Porto Rico.

28. **Uredo sabiceicola** Arth. Mycologia **7**: 323. 1915.

On *Sabicea aspera* Aubl. Error for *S. hirsuta*.
Sabicea hirsuta H.B.K.
Rather rare in Porto Rico:—South America.

29. **Uredo Sauvagesiae** Arth. Mycologia **8**: 23. 1916.

On *Sauvagesia erecta* L.
Rare in Porto Rico; not known elsewhere.

30. **Uredo Sparganophori** P. Henn. Hedwigia **43**: 160. 1904.

On *Struchium sparganophorum* (L.) Kuntze (*Sparganophorus Vaillantii* Gaert.).
Rather rare in Porto Rico:—Cuba, Jamaica, South America.

Uredo Spondiadis Petch.

See *Cerotelium alienum* (Syd. & Butler) Arth.

Uredo Stevensiana Arth.

See *Puccinia tubulosa* (Pat. & Gaill.) Arth.

31. **Uredo superior** Arth. Bull. Torrey Club **31**: 5. 1904.
Dicaeoma superius Arth. N. Am. Fl. **7**: 351. 1920.

On *Fimbristylis ferruginea* (L.) Vahl.
Fimbristylis spadicea (L.) Vahl.
Several collections from Porto Rico:—Cuba, Haiti, South America.

32. **Uredo Trichiliae** Arth. Mycologia **9**: 90. 1917.

On *Trichilia pallida* Sw.
Rare in Porto Rico:—South America.

Uredo venustula Arth.

See *Puccinia Kaernbachii* (P. Henn.) Arth.

33. **Uredo vicina** Arth. Mycologia **7**: 325. 1915.

On *Wedelia lanceolata* DC.
Rare in Porto Rico:—South America.

Note: The name **Coleosporium Plumieriae** Pat. is to be replaced by **Coleosporium domingense** (Berk.) Arth. Am. Jour. Bot. **5**: 329. 1918. *Uredo domingensis* Berk. Ann. Mag. Nat. Hist. II. **9**: 200 (1852) is a synonym. This rust is known also from Bahamas, Guatemala, and Panama.
See p. 112.

SUBCLASS 1. EUBASIDIOMYCETES

1. O. Hymenium.

The subclass includes most of the large conspicuous fungi except those with loculate sporocarps. All of the fungi known as "puffballs," "earthballs," "earthstars," "stinkhorns," "jelly fungi," and their immediate relatives belong here. Most of the wood-destroying fungi are of this subclass as well as a large number of parasites, both on the roots of vascular plant species. Most of the wood-inhabiting forms are of more or less restricted host range. In fact practically all of the species occurring on living plants are. Many species are widespread in distribution, while others of conspicuous habit and species of economic importance have not yet been found in localities.

The following list is to contain only a comparison of the species reported in previous work in the region treated. But a considerable number of species have been added from the present collections made by expeditions from the New York Botanical Garden. Report on material should be made of the collections by Mrs. E. G. Britton, Dr. W. A. Murrill, Dr. P. L. Sherwood, Dr. Roland Thaxter, Prof. H. H. Whetzel, Dr. F. D. Kern, and Mr. Carlos Chardon. Likewise Mr. J. A. Stevenson and Prof. F. S. Earle have in readiness, in herbaria, data on the less conspicuous species of considerable collections often with excellent descriptive notes. To these persons collections and to others not mentioned the present list owes a large measure of originality beyond the excellent list recently published by J. A. Stevenson. Some of the nomenclatorial problems presented in previous lists have been solved in the light of the additional material available, but many more remain still exist and many species yet remain to be examined particularly in the Lycoperdaceae whose chief specimens which are not available material to work with, even when accompanied by field notes. Time and space are a limiting factor in the work and a number of additional species could undoubtedly be added to the list by a prolonged study of the collections of Ayenia by Earle and Stevenson.

[illegible] The present writer is indebted to others for assistance in the work of preparation. Dr. F. S. Earle, Mr. C. G. Lloyd and Dr. W. C. Coker have furnished specimens, helpful in their special fields, and finally the many years' service of Dr. W. A. Murrill, whose numerous identifications of tropical Basidiomycetes are at New York has thrown much badly needed light on the fungous flora of the region here treated.

In the following list some effort has been directed toward a method of presentation that would give information as to what species are here reported for the first time for this region. In general, where no comments are included the species has been previously reported and collections may or may not have been seen by the writer. Where citation is made to definite collections it is in general to be understood that these collections represent species not previously reported, and hence authors may therefore have access to the exact material on which the report is based.

Tribe 1. HYMENOMYCETES.

Hymenium (basidial layer), exposed from the first or at least long before the spores mature. (See Tribe 2, Gasteromycetes, p. 176.)

This tribe includes all of the fleshy and woody fungi usually referred to the category of "mushrooms," "toadstools," "bracket fungi" and the like.

The following synopsis illustrates the basis of a more or less natural system of classification into orders and families largely on the structure of the basidia and the configuration of the hymenium.

Order I. Auriculariales. Basidia cylindric transversely 3-septate, mostly not not entirely gelatinous fungi. A single family with two unrelated genera, *Auricularia* and *Septobasidium*.

Order II. Tremellales. Basidia pyriform or globose, divided by longitudinal walls into 4 cells. Mostly gelatinous fungi in the single family Tremellaceae.

Order III. Dacryomycetales. Basidia cylindric, one-celled, the upper half bifurcate, each prong bearing a spore; gelatinous fungi. A single family Dacryomycetaceae.

Order IV. Agaricales. Basidia clavate, one-celled, usually 4-sterigmate; mostly fleshy, coriaceous or woody fungi.

Fam. 1. Clavariaceae. Hymenium even; plants erect, simple or much branched, the branches terete or nearly so, fleshy or brittle in texture.

Fam. 2. Thelephoraceae. Hymenium even; plants urn-shaped, discoid, pulvinate, resupinate, pileate, or in a few cases erect and branched but the branches flattened and coriaceous or leathery in texture.

Fam. 3. Hydnaceae. Hymenium covering the exterior surface of downward directed teeth, spines, warts, or permanent granules.

Fam. 4. Boletaceae. Hymenium poroid, i.e., covering the interior surface of tubes that open downward, and that separate in a smooth layer from the flesh of the pileus.

Fam. 5. Polyporaceae. Hymenium poroid as in Boletaceae but tubes not separating in a smooth layer.

Fam. 6. Agaricaceae. Hymenium covering the exterior surfaces of radiating and downward directed gills or vein-like ridges.

Order 1. AURICULARIALES.

Family 1. AURICULARIACEAE.

There are but two genera in this family, *Auricularia*, with sessile and often ear-shaped fruiting bodies, gelatinous or cartilaginous in texture, and *Septobasidium*, forming dry effused patches on the substratum which is usually the living limbs of trees.

1. AURICULARIA Bull. Herb. Fr. *pl. 290.* 1786.

1. **Auricularia Auricula** (L.) Underwood, Mem. Torrey Club **12**: 15. 1902.

Tremella Auricula L. Sp. Pl. 1157. 1753.
Auricularia Auricula-Judae (Bull.) Schroet. Krypt.-Fl. Schles. **3**: 38. 1889.

On dead wood of various kinds, Porto Rico:—cosmopolitan.
The fungus is commonly known as "Jew's ear," and is edible.

2. **Auricularia delicata** (Fries) P. Henn. Engler's Bot. Jahr. **17**: 492. 1893.

Laschia delicata Fries, Linnaea **5**: 533. 1830.

On dead wood, Porto Rico:—tropical regions.
Easily recognized by the strongly venose-poroid hymenium.

3. **Auricularia nigrescens** (Sw.) Farl. Bib. Index **1**: 308. 1905.

Peziza nigrescens Sw. Prod. 150. 1788.

On dead wood, Porto Rico; St. Thomas:—tropical regions.
In general similar to the first species but the hymenium blackish or purplish.

Doubtful Species.

Auricularia auriformis (Schw.) Earle, in Mohr, Contr. U. S. Nat. Herb. **6**: 194. 1901. (*Peziza auriformis* Schw. Schr. Nat. Ges. Leipzig **1**: 116. 1818). This species was reported from the Schwanecke collection but is usually regarded as at best only a yellow form of *A. Auricula*.

2. SEPTOBASIDIUM Pat. Jour. de Bot. **6**: 61. 1892.

1. **Septobasidium lilacinum** Burt, Ann. Missouri Bot. Gard. **3**: 343. 1916.

On trunks of *Citrus grandis* Osbeck and on rotten wood, Porto Rico:—Trinidad.

2. **Septobasidium pseudopedicellatum** Burt, Ann. Missouri Bot. Gard. **3:** 327. 1916.

On living branches, Porto Rico:—Cuba; continental North America.

3. **Septobasidium spongia** (Berk. & Curt.) Pat. Bull. Soc. Myc. Fr. **16:** 181. 1900.

Thelephora spongia Berk. & Curt. Jour. Linn. Soc. **10:** 330. 1868.

Growing over scale insects on twigs and branches of *Citrus*, Porto Rico:—Cuba.

Order 2. **TREMELLALES.**

Family 1. **TREMELLACEAE.**

This family contains but three genera known from this region, *Tremella*, with gelatinous sporophores; *Tremellodendron*, a genus of white clavarioid plants; and *Heterochaete*, resupinate and non-gelatinous, with minute teeth on the hymenium, both of the latter placed here on the basis of their longitudinally four-celled basidia.

1. **HETEROCHAETE** Pat.; Pat. & Lagerh. Bull. Soc. Myc. Fr. **8:** 120. 1892.

1. **Heterochaete andina** Pat. & Lagerh. Bull. Soc. Myc. Fr. **8:** 120. 1892.

On dead sticks, Porto Rico:—Europe.

With the aspect of a *Corticium* but with subglobose basidia longitudinally four-celled, and with minute cylindric sterile teeth on the hymenium.

2. **Heterochaete sublivida** Pat. Bull. Soc. Myc. Fr. **24:** 2. 1908.

On dead wood, Porto Rico:—subtropical United States; Cuba.

Burt reports (Ann. Missouri Bot. Gard. **8:** 375. 1921) a Porto Rican collection by Stevenson (*6370*).

2. **TREMELLA** L. Sp. Pl. 1157. 1753.

1. **Tremella fuciformis** Berk. Hooker's Jour. Bot. **8:** 277. 1856.

On humus, Porto Rico:—tropical and subtropical America.

2. **Tremella pallida** sp. nov.

Plants pallid when fresh, almost white, darker and close to sayal brown on drying, cartilaginous rather than gelatinous, drying hard and horny and requiring at least an hour to soak up, 0.6–2.5 cm. broad, 0.5–1.5 cm. high, cerebriform and convoluted rather than foliaceous; internally cartilaginous-gelatinous, homogeneous and concolorous; basidia longitudinally four-celled at maturity, ovoid, 11–15 × 8–9 μ; spores ellipsoid or oblong-ellipsoid, smooth, hyaline, 6–7 × 4 μ.

Bursting through the bark on dead wood, Porto Rico, Jan. 24–April 5, 1923. Seaver and Chardon, *629* (New York Botanical Garden Herb.), and Overholts Herb. *9854*. Also in Lloyd Museum.

The plants are similar in size and configuration to *T. mesenterica* but in fresh condition are pale in color, almost white.

3. **Tremella indurata** sp. nov.

Forming dense convoluted-foliaceous clusters 4–5 cm. long, 2 cm. wide and high, apparently from the cracks in wood, cartilaginous rather than gelatinous,

soaking out to dusky brown or carob brown (Ridgway), drying entirely black, the convolutions very apparent in the dried plants. Hymenium on all sides of the fructifications, composed of globose basidia 13–15 μ in diameter, becoming longitudinally 4-celled and 4-sterigmate; spores subglobose or apiculate-ovate, thin-walled, with a large central oil globule, 9–11 μ diameter.

On dead wood. The type collection is *781* of Whetzel and Olive, collected at Mayaguez, Feb. 29, 1916, on trunk of fallen mango.

The species is deemed characteristic in the dark red-brown color of the fresh plants, changing to black on drying and becoming exceedingly hard. The color is similar to that of dark forms of *T. frondosa* but the plants are less foliaceous and not brittle but very hard on drying. Specimens are deposited in the Herbarium of Cornell University, in the Lloyd Museum, and in Overholts Herb. *9925*.

4. **Tremella rufolutea** Berk. & Curt. Jour. Linn. Soc. **10:** 340. 1868.

On rotten wood, Porto Rico:—Cuba.

3. **TREMELLODENDRON** Atkinson, Jour. Myc. **8:** 106. 1902.

1. **Tremellodendron simplex** Burt, Ann. Missouri Bot. Gard. **2:** 742. 1915.

In cane fields, Porto Rico:—endemic.

Order 3. **DACRYOMYCETALES.**

Family 1. **DACRYOMYCETACEAE.**

A single genus, *Guepinia*, has been reported from the region.

1. **GUEPINIA** Fries, Syst. Orbis Veg. 92. 1825.

1. **Guepinia palmiceps** Berk. Ann. Mag. Nat. Hist. **10:** 383. 1843.

On wood, Porto Rico:—Cuba; Ceylon.

2. **Guepinia Spathularia** (Schw.) Fries, Elench. Fung. **2:** 32. 1828.

Merulius Spathularia Schw. Schr. Nat. Ges. Leipzig **1:** 92. 1822.

On old wood, Porto Rico:—probably cosmopolitan.

In previous reports this species has been most often reported as *G. spathulata*, evidently an error. It forms spathulate yellow bodies in the cracks in rails and logs.

Order 4. **AGARICALES.**

Family 1. **CLAVARIACEAE.**

1. **CLAVARIA** L. Sp. Pl. 1182. 1755.

But two genera are known from the region, *Physalacria*, a very small simple capitate plant, on wood, and *Clavaria*, non-capitate, club-like or much branched plants, usually on the ground. *Lachnocladium* a genus of brown coriaceous clavarioid plants with hairy stem will be found in the Thelephoraceae; *Tremellodendron*, white plants of somewhat clavarioid habit, has longitudinally 4-celled basidia and belongs in the Tremellaceae.

1. **Clavaria cervina** Berk. & Curt. Jour. Linn. Soc. **10:** 338. 1868.

On dead wood, Porto Rico:—Cuba.

Determined by Coker from a collection by Chardon and Seaver, *645*, in 1923–24.

2. **Clavaria fumosa** Pers. Obs. Myc. **1**: 31. 1796.

On the ground, Porto Rico:—continental North America.

3. **Clavaria inaequalis** Müll. Fl. Dan. *Pl. 836, f. 1.* 1780.

On the ground, Porto Rico:—continental North America; Europe; Australia; Ceylon; Tasmania; New Zealand.

4. **Clavaria pilosa** Burt, Ann. Missouri Bot. Gard. **9**: 46. 1922.

On humus, Porto Rico:—endemic.
Collected by Johnston and Stevenson in 1914 and cited by Burt.

2. **PHYSALACRIA** Peck, Bull. Torrey Club **9**: 2. 1882.

1. **Physalacria inflata** (Schw.) Peck, Bull. Torrey Club **9**: 2. 1882.

Mitrula inflata Fries, Elench. Fung. **1**: 234. 1872.

On dead wood, Porto Rico.
Collected by Stevens in 1913, *4909 a.*

Family 2. **THELEPHORACEAE.**

1. **ALEURODISCUS** Rabenh. Hedwigia **13**: 184. 1874.

1. **Aleurodiscus apiculatus** Burt, Ann. Missouri Bot. Gard. **5**: 186. 1918.

On bark, Porto Rico; Vieques Island:—Jamaica; Grenada.

2. **Aleurodiscus candidus** (Schw.) Burt, Ann. Missouri Bot. Gard. **5**: 188. 1918.

Thelephora candida Schw. Schr. Nat. Ges. Leipzig **1**: 110. 1822.

On bark of *Mangifera indica* L., Porto Rico:—Jamaica; continental North America.

3. **Aleurodiscus strumosus** (Fries) Burt, Ann. Missouri Bot. Gard. **5**: 190. 1918.

Stereum strumosum Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 111. 1855.

On bark of frondose trees, Porto Rico:—continental North America.

2. **ASTEROSTROMA** Massee, Jour. Linn. Soc. **25**: 154. 1890.

1. **Asterostroma cervicolor** (Berk. & Curt.) Massee, Jour. Linn. Soc. **25**: 155. 1890.

Corticium cervicolor Berk. & Curt. Grevillea **1**: 179. 1873.

On soil and cane trash, Porto Rico:—continental North America; Japan.

2. **Asterostroma spiniferum** Burt, Ann. Missouri Bot. Gard. **11**: 33. 1924.

On rotten wood, Porto Rico:—endemic.

3. **CLADODERRIS** Pers. in Gaud. Voy. Uranie Bot. 176. 1826.

1. **Cladoderris dendritica** (Pers.) Berk. London Jour. Bot. **1**: 152. 1842.

Thelephora dendritica Pers. in Gaud. Voy. Uranie Bot. 176. 1826.

On dead sugar cane, Porto Rico:—Cuba; Jamaica; Mexico; Colombia; Philippine Islands.

4. **CORTICIUM** Fries, Epicr. Myc. 556. 1838.

1. **Corticium arachnoideum** Berk. Outl. Brit. Fung. 273. 1860.

On soil and sugar cane trash, Porto Rico:—continental North America; Europe; Australia.

2. **Corticium confluens** Fries, Epicr. Myc. 564. 1838.

On dead *Citrus* branches, Porto Rico:—Europe.

3. **Corticium contiguum** Karst. Bidr. Finl. Folk. **37**: 150. 1882.

On wood, Porto Rico:—Europe.

4. **Corticium debile** Berk. & Curt. Jour. Linn. Soc. **27**: 131. 1890.

On dead wood, Porto Rico:—continental North America.

5. **Corticium investiens** (Schw.) Bres. Hymen. Hung. Kmet. 46. 1897.

Radulum investiens Schw. Trans. Am. Phil. Soc. **4**: 165. 1832.

On dead wood, Porto Rico:—continental America.

6. **Corticium koleroga** (Cooke) Höhn. Sitz.-ber. Akad. Wien **119**: 395. 1910.

Pellicularia koleroga Cooke, Grevillea **4**: 116. 1876.

On different species and varieties of coffee, Porto Rico:—Europe.

7. **Corticium lactescens** Berk. Outl. Brit. Fung. 274. 1860.

On dead wood, Porto Rico:—Europe.

8. **Corticium portentosum** Berk. & Curt. Grevillea **2**: 3. 1873.

On dead wood, Porto Rico:—continental North America.

9. **Corticium salmonicolor** Berk. & Br. Jour. Linn. Soc. **14**: 71. 1875.

On *Citrus grandis* Osbeck, *Citrus sinensis* (L.) Osbeck, *Theobroma Cacao* L., Porto Rico:—Ceylon.

10. **Corticium simile** Berk. & Curt. Jour. Linn. Soc. **10**: 337. 1868.

On dead sticks, Porto Rico:—Cuba.

11. **Corticium subcontinuum** Berk. & Curt. Jour. Linn. Soc. **10**: 337. 1868.

On dead sticks, Porto Rico:—Cuba.

12. **Corticium vagum** Berk. & Curt. Grevillea **1**: 179. 1873.

Reported by Barrett on *Solanum tuberosum* L. and the *Rhizoctonia* stage collected by Whetzel and Kern at Comerio, June 13, 1924, on *Phascolus vulgaris* L.

5. **CYMATELLA** Pat. Bull. Soc. Myc. Fr. **15**: 193. 1899.

1. **Cymatella pulverulenta** (Berk. & Curt.) Sacc. & Syd. in Sacc. Syll. Fung. **16**: 50. 1902.

Craterellus pulverulentus Berk. & Curt. Jour. Linn. Soc. Bot. **10**: 328. 1868.

On decaying bark, Porto Rico:—Cuba.

6. **HYMENOCHAETE** Lév. Ann. Sci. Nat. III. **5**: 150. 1846.

1. **Hymenochaete Cacao** Berk. Jour. Linn. Soc. **10**: 333. 1868.

Reported from the Sintenis collection, Porto Rico:—Cuba.

2. **Hymenochaete corrugata** (Fries) Lév. Ann. Sci. Nat. Bot. III. **5**: 152. 1846.

Thelephora corrugata Fries, Obs. Myc. **1**: 154. 1815.

On dead twigs, Porto Rico:—temperate and tropical America; Europe.

A single collection made at Rio Piedras in 1919 by Earle, *239* is referred here after careful comparisons. The spores are cylindric, 5–6 × 1.5–2 μ; setae abundant, 6–9 μ diameter.

3. **Hymenochaete cubensis** Burt, Ann. Missouri Bot. Gard. **5**: 337. 1918.

On rotten wood, Porto Rico:—Cuba.

4. **Hymenochaete damaecornis** (Link) Lév. Ann. Sci. Nat. III. **5**: 151. 1846.

Stereum damaecorne Link, Ges. Nat. Freunde Berlin Mag. **3**: 40. 1809.

On dead wood, Porto Rico:—Cuba; Santo Domingo.

5. **Hymenochaete luteo-badia** (Fries) Höhn. & Litsch. Sitz.-ber. Akad. Wien **116**: 754. 1907.

Thelephora luteo-badia Fries, Linnaea **5**: 526. 1830.

On rotten wood, Porto Rico:—Trinidad; continental South America.

Thelephora (*Hymenochaete*) *Kunzei* Hooker of some lists is given as a synonym by Burt.

6. **Hymenochaete multisetae** Burt, Ann. Missouri Bot. Gard. **5**: 357. 1918.

On rotten wood, Porto Rico:—Cuba, Jamaica.

A collection made at Rio Piedras, by Earle, *140*, is referred here.

7. **Hymenochaete opaca** Burt, Ann. Missouri Bot. Gard. **5**: 364. 1918.

On fallen limbs, Porto Rico:—Jamaica.

A collection, *243*, by Earle at Rio Piedras in 1919 differs from *H. corrugata* in those features described by Burt as characteristic of *H. opaca*. The color approaches bister only in young fructifications, however, older ones being yet darker than he records and approaching bone brown. Sections are quite opaque, and altogether the agreement is so close that I have had no hesitancy in referring the collection to that species.

8. **Hymenochaete rubiginosa** (Dicks.) Lév. Ann. Sci. Nat. III. **5**: 151. 1846.

Helvella rubiginosa Dicks, Fasc. Pl. Crypt. Brit. **1**: 20. 1785.

On dead wood, Porto Rico:—Europe; continental North America; Tasmania; Australia; India.

9. **Hymenochaete Sallei** Berk. Jour. Linn. Soc. **10**: 333. 1868.

On dead wood, Porto Rico:—Cuba; Jamaica; St. Kitts; Grenada; continental America.

7. **HYPOCHNUS** Fries, Obs. Myc. **2**: 278. 1818.

1. **Hypochnus pallescens** (Schw.) Burt, Ann. Missouri Bot. Gard. **4**: 267. 1917.

Corticium pallens Schw. in Sacc. Syll. Fung. **6**: 586. 1888.

On dead wood, Porto Rico:—Cuba; Jamaica; Trinidad; continental North America.

2. **Hypochnus rubrocinctus** Ehr. Horae Phys. Berol. 84. 1820.

On dead wood, Porto Rico:—Cuba; continental North and South America; Australia.

8. **MICROSTROMA** Niessl, Oesterr. Bot. Zeits. **11**: 252. 1861.

1. **Microstroma ingaicola** Lamkey; Stevens, Mycologia **12**: 52. 1920.

Producing witches' brooms on *Inga Inga* (L.) Britton, Porto Rico:—endemic.

2. **Microstroma Pithecolobii** Lamkey; Stevens, Mycologia **12**: 52. 1920.

Producing white hypophyllous spots on *Samanea Saman* (Willd.) Merrill, Porto Rico:—endemic.

9. **MYCOBONIA** Pat. Bull. Soc. Myc. Fr. **10**: 76. 1894.

1. **Mycobonia flava** (Schwartz) Pat. Bull. Soc. Myc. Fr. **10**: 77. 1894.

Peziza flava Schwartz, Prodr. 150. 1782.

On dead wood, Porto Rico:—Cuba; continental South America.
A single good collection by Stevens, *7429*, in 1915 is at New York.

10. **PENIOPHORA** Cooke, Grevillea **8**: 20. 1879.

1. **Peniophora cinerea** (Fries) Cooke, Grevillea **8**: 20. 1879.

Corticium cinereum Fries, Epicr. Myc. 563. 1838.

On dead twigs and branches of species of *Citrus*, Porto Rico:—Europe; continental North America.

2. **Peniophora flavido-alba** Cooke, Grevillea **8**: 21. 1879.

On dead wood and cane trash, Porto Rico:—continental North America.
In microscopic structure this species seems to me to be very close to *P. laeris* (Fries) Burt.

3. **Peniophora galochroa** Bres. Hedwigia **35**: 290. 1896.

On dead wood of *Melia Azedarach* L., Porto Rico:—continental South America; Jamaica.

4. **Peniophora inconspicua** (Berk. & Curt.) Massee, Jour. Linn. Soc. **25**: 149. 1889.

Corticium inconspicuum Berk. & Curt. Jour. Linn. Soc. **10**: 336. 1868.

On dead deciduous wood, Porto Rico:—Cuba.
Reported only by Burt from Johnston's collections, *1664*.

5. **Peniophora mutata** (Peck) Bresadola; Bourdot & Galzin, Bull. Soc. Myc. Fr. **28**: 399. 1912.

Corticium mutatum Peck, Ann. Rep. N. Y. State Mus. **43**: 23. 1890.

On dead wood, Porto Rico: —continental North America, Europe, Japan.

6. **Peniophora piliseta** Burt, Ann. Missouri Bot. Gard. **12**: 242. 1925.

On rotten wood, Porto Rico:—endemic.
Burt describes this species from Johnston's collections, *971a*.

7. **Peniophora pruinata** (Berk. & Curt.) Burt, Ann. Missouri Bot. Gard. **12:** 340. 1925.

Stereum pruinatum Berk. & Curt. Jour. Linn. Soc. **10:** 332. 1868.

On rotten wood, Porto Rico:—West Indies: continental North America.
The species is reported by Burt from the collections of Britton and Marble, *1204*.

8. **Peniophora Ravenelii** Cooke, Grevillea **8:** 21. 1879.

On dead wood, Porto Rico:—continental North America.

9. **Peniophora Roumeguerii** Bres.; Burt, Ann. Missouri Bot. Gard. **12:** 270. 1925.

Corticium Roumeguerii Bres. Fungi Trid. **2:** 36. 1892.

On dead wood, Porto Rico:—Cuba; Europe; continental North America.
Reported by Burt from Stevenson's collections, *5792*, *6058*, and *5693*.

10. **Peniophora Sacchari** Burt, Ann. Missouri Bot. Gard. **12:** 328. 1925.

On cane trash, Porto Rico:—endemic.
Burt describes this species from Stevenson's collections, *1204*.

11. **Peniophora similis** (Berk. & Curt.) Massee, Jour. Linn. Soc. **25:** 147. 1889.

Corticium simile Berk. & Curt. Jour. Linn. Soc. **10:** 337. 1868.

On dead wood, Porto Rico:—West Indies; continental North America; Japan.

12. **Peniophora tephra** (Berk. & Curt.) Cooke, Grevillea **8:** 20. 1879.

Corticium tephrum Berk. & Curt. Jour. Linn. Soc. **10:** 336. 1868.

On dead wood, Porto Rico:—Cuba; Mexico; Bermuda.
The species is reported by Burt from Stevenson's collection, *6760*.

11. **STEREUM** Pers. Neues Mag. Bot. **1:** 110. 1794.

1. **Stereum albo-badium** Schw. Schr. Nat. Ges. Leipzig **1:** 109. 1822.

Stereum Coffearum Berk. & Curt. Jour. Linn. Soc. **10:** 332. 1868.

On dead citrus wood, Porto Rico:—Cuba; Bermuda; continental North America.

2. **Stereum aurantiacum** (Pers.) Lloyd, Myc. Writ. **4:** 22. 1913.

Thelephora aurantiaca Pers. in Gaud. Voy. Uranie Bot. 176. 1827.
Thelephora sericella Berk. & Curt. Jour. Linn. Soc. **10:** 328. 1868.

On the ground and wood, Porto Rico:—Cuba; Jamaica; Santo Domingo; St. Kitts; continental America.
Named by Lloyd from Fink's collections of 1915–16, *882*.

3. **Stereum caperatum** (Berk. & Mont.) Massee, Jour. Linn. Soc. Bot. **27:** 161. 1891.

Thelephora caperatum Berk. & Mont. Ann. Sci. Nat. III. **11:** 241. 1849.

On rotten wood, Porto Rico:—Santo Domingo; St. Kitts; tropical and subtropical America.

4. **Stereum cyphelloides** Berk. & Curt. Jour. Linn. Soc. **10:** 331. 1868.

On a bank among moss plants, Porto Rico;—Cuba.

5. **Stereum decolorans** (Berk. & Curt.) Lloyd, Syn. Stip. Stereums 36. 1913.
Thelephora decolorans Berk. & Curt. Jour. Linn. Soc. **10**: 328. 1868.
On old wood, Porto Rico:—tropical regions.

6. **Stereum elegans** (G. Meyer) Lloyd, Syn. Stip. Stereums 24. 1913.
Thelephora elegans Meyer, Fl. Esseq. 305. 1818.
On dead wood, Porto Rico:—continental South America.

7. **Stereum fasciatum** (Schw.) Fries, Epicr. Myc. 546. 1838.
Thelephora fasciata Schw. Schr. Nat. Ges. Leipzig **1**: 106. 1822.
On dead wood, Porto Rico:—Cuba; Jamaica; continental America; Formosa; Java; Philippine Islands.

8. **Stereum glabrescens** Berk. & Curt. Jour. Linn. Soc. **10**: 330. 1868.
On fallen twigs, Porto Rico:—Cuba; Jamaica; Dominica.

9. **Stereum Hartmanni** (Mont.) Lloyd, Myc. Writ. **4**: 34. 1913.
Thelephora Hartmanni Mont. Ann. Sci. Nat. II. **20**: 366. 1843.
On decaying wood, Porto Rico:—St. Kitts; Bolivia.
Named by Lloyd from Fink's collections of 1915–16, *421*.

10. **Stereum lobatum** Fries, Epicr. Myc. 547. 1838.
On dead wood, Porto Rico:—widely distributed.
After seeing the specimens at New York from various southern and tropical localities the determinations of which are marked as verified by Dr. Burt, I cannot see that there is a good distinction between this species and *S. fasciatum*. A dozen collections were made by Fink in 1915–16.

11. **Stereum Murrayi** (Berk. & Curt.) Burt, Ann. Missouri Bot. Gard. **7**: 131. 1920.
Thelephora Murraii Berk. & Curt. Jour. Linn. Soc. **10**: 329. 1868.
Stereum tuberculosum Fries, Hymen. Eur. 644. 1874.
On rotten wood, Porto Rico:—Cuba; Jamaica; continental North America.

12. **Stereum nitidulum** Berk. Hooker's Lond. Jour. Bot. **2**: 638. 1843.
On dead wood, Porto Rico:—Ceylon; Brazil; Australia.
Determined by Lloyd from collections by Chardon and Seaver, 1923.
Dr. Burt uses *S. pergamenum* Berk. as the name of this plant.

13. **Stereum papyrinum** Mont. Pl. Cell. Cuba 374. 1842.
On dead wood, Porto Rico:—Cuba; Jamaica; continental North and South America.

14. **Stereum pusiolum** Berk. & Curt. Jour. Linn. Soc. **10**: 330. 1868.
On the ground, Porto Rico:—Cuba.
The determination was made by Dr. E. A. Burt, from collections of Chardon and Seaver, *1923*.

15. **Stereum umbrinum** Berk. & Curt. Grevillea **1**: 164. 1873.
On dead wood, Porto Rico:—Cuba; Guatemala; continental North America; Australia.

16. **Stereum versicolor** (Schwartz) Fries, Epicr. Myc. 547. 1838.

Helvella versicolor Schwartz, Prodr. 149. 1788.

On dead wood, Porto Rico:—Jamaica; continental North America.

Stereum radians Fries, reported from Porto Rico is regarded as a synonym of this species by Burt.

Doubtful Species.

Stereum Coffearum Berk. & Curt. is a synonym for *S. albobadium* according to Burt, but must not be confused with *S. coffeatum* Berk. & Curt. which Burt lists as a synonym for *S. fusca* Schrad. This last species has been reported from Cuba and is likely to occur in Porto Rico.

Stereum pergamenum Berk., reported by Burt from Santo Domingo is listed here as *S. nitidulum* Berk.

Thelephora sericella Berk. & Curt. is *S. aurantiacum*, fide Lloyd. I do not find it listed by Burt, though described from Cuba.

In 1912 Johnston collected, no. *643*, at Rio Piedras a fungus on herbaceous stems that I refer to the genus *Cyphella* but because there are several very poorly described species of that genus from tropical and subtropical America I am at a loss as to its specific identity. The plants are white, floccose, about half a millimeter in width and height; the spores are copious, slightly ochraceous or hyaline, smooth, elliptic, 9–10 × 6 μ; basidia usually, I think, two-spored, 15–24 × 6–7 μ; branched paraphyses in the hymenium.

Family 3. **HYDNACEAE.**

1. **HYDNUM** L. Sp. Pl. ed. 2. 1178. 1753.

1. **Hydnum multifidum** (Klotzsch) P. Henn. Engler's Bot. Jahrb. **17**: 493. 1893.

Thelephora multifida Klotzsch, Linnaea **25**: 365. 1852.

On rotten wood, Porto Rico:—tropical and subtropical America.

This species has been variously referred to *Thelephora*, *Hydnum*, *Polyporus*, *Craterellus*, and other genera. The hymenial configuration is at times, though rarely, truly hydnoid with cylindrical pointed teeth. Often it is more irpiciform with flattened teeth often arranged in radiating lines, and it is to this form that the type specimens apparently belong, according to the excellent description given by Hennings when he transferred the species to *Hydnum*. Such specimens will always be sought among the Hydnaceae and for that reason a name complimentary to that hymenial configuration will be retained here. In a more perfect stage of hymenial development the fungus is a *Polyporus* of the section *Polystictus* and has long been known as *P. fimbriatus*. Collections from Porto Rico by Stevens in 1913, 1915, and 1920; by Brothers Leon and Clement in 1915; and one by Lopez in 1917 are referable here.

2. **Hydnum pulcherrimum** Berk. & Curt. Jour. Bot. & Kew Gard. Misc. **1**: 235. 1849.

On dead wood, Porto Rico:—continental North America.

Two collections by Mrs. Britton and Miss Marble, *1207* and *1209* form the basis for the report of this unrecorded species for the region.

3. **Hydnum Sacchari** Spreng. Vet. Akad. Handl. **1820**: 51. 1820.

On dead cane trash, Porto Rico:—Guadaloupe.

I have not seen plants of this species. Perhaps it belongs rather under *Odontia*.

4. **Hydnum ursinum** Lloyd, sp. nov.

On dead wood, Porto Rico:—endemic.

The description of this species is to be published in Mycological Notes by Lloyd. The plants are entirely black on drying and are sessile. Named from Fink's Porto Rican collections, *2183*, in 1915–16.

2. **IRPEX** Fries, Elench. Fung. 142. 1828.

1. **Irpex discolor** Berk. & Curt.; Berk. Grevillea **1**: 145. 1873.

On rotten wood, Porto Rico:—continental North America.

2. **Irpex farinaceus** Fries, Linnaea **5**: 523. 1830.

Cerrenella farinacea Murrill, Southern Polyp. 32. 1915.

On rotten wood, Porto Rico:—North and South America.

According to Stevenson, *Poria portoricensis* Fries is a synonym of this species. It should probably be classed with the Polyporaceae, perhaps in the genus *Daedalea*.

3. **Irpex flavus** Klotzsch, Linnaea **8**: 488. 1833.

Porto Rico:—Australia; Peradenya; Ceylon; continental North America.

3. **ODONTIA** Pers. Obs. Myc. **2**: 16. 1799.

1. **Odontia Sacchari** Burt, Ann. Missouri Bot. Gard. **4**: 233. 1917.

On *Saccharum officinarum* L., Porto Rico:—Cuba.

2. **Odontia saccharicola** Burt, Ann. Missouri Bot. Gard. **4**: 235. 1917.

On *Paspalum* and on *Saccharum officinarum* L., Porto Rico:—endemic.

3. **Odontia Wrightii** (Berk. & Curt.) Pat.; Stevenson, Jour. Dept. Agr Porto Rico **2**: 187. 1918.

Kneiffia Wrightii Berk. & Curt. Jour. Linn. Soc. **10**: 327. 1868.

On dead wood, Porto Rico:—Cuba; continental North and South America.

Family 4. **BOLETACEAE.**

A single genus *Boletus* is known to be represented in the region.

1. **BOLETUS** L. Sp. Pl. 1177. 1753.

1. **Boletus Earlei** (Murrill) comb. nov.

Gyroporus Earlei Murrill, Mycologia **13**: 60. 1921.

On sandy soil, in old grape fruit grove, Porto Rico:—endemic.

Family 5. **POLYPORACEAE.**

1. **DAEDALEA** Pers. Syn. Fung. 499. 1801.

1. **Daedalea repanda** Pers.; Gaud. Voy. Freyc. 168. 1826.

Daedalea amanitoides Beauv. Fl. Oware **1**: 44. 1805.

On dead wood, Porto Rico:—tropical America.

2. **FAVOLUS** Beauv. Fl. Oware **1**: 1. 1805.

1. **Favolus brasiliensis** Fries, Elench. Fung. 44. 1828.

Hexagona daedalea (Link) Murrill, Bull. Torrey Club **31**: 328. 1904.
Hexagona Wilsonii Murrill, Bull. Torrey Club **31**: 329. 1904.

On trunks and decaying wood, Porto Rico:—Cuba; tropical America.

2. **Favolus caperatus** Pat. Bull. Soc. Myc. Fr. **18**: 171. 1902.

On dead wood, Porto Rico:—Guadeloupe.

This rare species was collected by Earle in 1921, and specimens are preserved at New York.

3. **Favolus induratus** Berk. Ann. Mag. Nat. Hist. II. **9**: 197. 1852.

On dead wood, Porto Rico:—Santo Domingo; Hispaniola.

This was collected by Earle for the first time at Catano in 1918 and is preserved at New York. Lloyd records it as *Hexagona Miquelii* (Mont.) Lloyd but it seems to me to be a better *Favolus*.

4. **Favolus portoricensis** (Murrill) Sacc. Syll. Fung. **17**: 141. 1905.

Hexagona portoricensis Murrill, Bull. Torrey Club **31**: 331. 1904.

On decaying wood, Porto Rico:—endemic.

The plant is perhaps a better *Polyporus* than *Favolus*.

5. **Favolus pseudoprinceps** (Murrill) Sacc. & Trott. in Sacc. Syll. Fung. **21**: 355. 1912.

Hexagona pseudoprinceps Murrill, N. Am. Fl. **9**: 49. 1907.

On dead wood, Porto Rico:—endemic.

6. **Favolus tessellatula** (Murrill) Sacc. Syll. Fung. **17**: 142. 1905.

Hexagona tessellatula Murrill, Bull. Torrey Club **31**: 330. 1904.

On dead wood, Porto Rico:—Cuba; Santo Domingo; Jamaica.

The plants seem to me to be only small tessulate forms of *Favolus brasiliensis* which is usually striatulate on top but not infrequently is more or less tessulate.

3. **FOMES** Gill. Champ. Fr. **1**: 682. 1878.

1. **Fomes australis** (Fries) Cooke, Grevillea **14**: 18. 1885.

Polyporus australis Fries, Elench. Fung. **1**: 108. 1828.
Elfvingia tornata (Pers.) Murrill, Bull. Torrey Club **30**: 301. 1903.

On dead wood, Porto Rico; St. Thomas:—tropical and subtropical regions.

This is the tropical analogue of *Fomes applanatus* (Pers.) Wallr. of temperate regions.

2. **Fomes dependens** (Murrill) Sacc. & Trott. in Sacc. Syll. Fung. **21**: 292. 1912.

Pyropolyporus dependens Murrill, N. Am. Fl. **9**: 106. 1908.

On dead wood, Porto Rico:—tropical America.

A single collection was made by Britton and Shafer in 1913, *1938*.

3. **Fomes igniarius** (L.) Gill. Champ. Fr. **1**: 687. 1878.

Boletus igniarius L. Sp. Pl. 1176. 1753.

On dead wood, Porto Rico:—temperate regions of the world.

The species was reported from the Sintenis collection but is not otherwise known, and the report may have been an error.

4. **Fomes ligneus** (Berk.) Cooke, Grevillea **13**: 119. 1884.

Polyporus ligneus Berk. Ann. Mag. Nat. Hist. **3**: 387. 1821.

On wood, Porto Rico:—tropical America.

The only report of this species from the region is from the Sintenis collection. It is known from several localities in the West Indes.

5. **Fomes marmoratus** (Berk. & Curt.) Cooke, Grevillea **14**: 18. 1885.

Polyporus marmoratus Berk. & Curt. Proc. Am. Acad. **4**: 122. 1860.

On dead wood, Porto Rico; St. Thomas:—tropical and subtropical America.

The species is listed by Murrill as *Elfvingiella fasciata* (Sw.) Murrill. It is the tropical analogue of *Fomes fomentarius*.

6. **Fomes pectinatus** (Klotzsch) Sacc. Syll. Fung. **6**: 193. 1888.

Polyporus pectinatus Klotzsch, Linnaea **8**: 485. 1833.

On dead wood, Porto Rico:—tropical and subtropical America.

A single collection by Fink *2021* in 1915 is referred here.

7. **Fomes portoricensis** Overholts, sp. nov.

Pileus sessile or effused-reflexed, thin and applanate 1.5–5 — 6 × 4–12 × 0.3–1.5 cm., rigid and subwoody, yellow to ferruginous on the margin, brown or brownish black behind, narrowly zonate or concentrically striate, at first with a ferruginous tomentose layer with an underlying thin, black crust, the tomentum finally disappearing and leaving the surface distinctly incrusted: context light yellow-brown, firm, 2–5 mm. thick, showing under the microscope many imbedded brown, thick-walled hyphae that end in setae-like points, 12–21 μ diameter; hymenium grayish brown, the tubes about 2 mm. long each season, with a total length up to 1 cm. or rarely up to 3.5 cm., their mouths angular or sub-angular, rather thin-walled, entire, averaging 7 to 8 per mm.: spores globose, brown, 4–5 μ diameter; setae present projecting from the trama and the context into the tubes, 12 μ or more diameter.

On dead wood. Type collection by J. R. Johnston *119*, Nov. 30, 1911, at Rio Piedras, Porto Rico. Part of type in Overholts Herb. *9895*. Also collected at Jalapa, Mexico, by W. A. & Edna L. Murrill, Dec. 12–20, 1909, *37*.

The species is characterized by the bright yellow-brown context as in *F. rheicolor* Lloyd and otherwise is very close to that species but differs in the narrowly zonate-striate surface of the pileus and the presence of the conspicuous imbedded setae. It is apparently close also to *F. lineus* but according to a type fragment preserved at New York that also does not have imbedded setae. Mr. Lloyd has also told me in conversation that *F. lineus* does not have these setae. It may be the basis of the *F. lamaensis* Murrill reported by Stevenson. *F. extensus* lacks the bright context color of this species and has hyaline spores.

8. **Fomes rheicolor** Lloyd, Synop. Genus Fomes 245. 1915.

On dead wood, Porto Rico:—Argentine.

This interesting species is characterized by its bright yellow context, and may belong in *Polyporus* rather than *Fomes*.

9. **Fomes Robinsoniae** (Murrill) Sacc. & Trott. in Sacc. Syll. Fung. **21**: 291. 1912.

Pyropolyporus Robinsoniae Murrill, N. Am. Fl. **9**: 108. 1908.

On dead wood, Porto Rico:—Jamaica.

A fine collection, the second on record, was made by Stevens. *8609*, in 1915. The original description stating "cystidia none" is an error, as the hymenium of both known collections is sparingly setulose, the setae often with characteristically curved tips.

10. **Fomes sarcitus** (Fries) Cooke, Grevillea **14**: 19. 1885.

Polyporus sarcitus Fries, Nov. Symb. 66. 1851.

On dead wood, St. Jan:—endemic.

11. **Fomes scutellatus** (Schw.) Cooke, Grevillea **14**: 19. 1885.

Polyporus scutellatus Schw. Trans. Am. Phil. Soc. II. **4**: 157. 1832.

On decaying wood, Porto Rico:—eastern and southern United States and Mexico.

Two collections are preserved at New York, one by Earle in 1918, *102*, and one by Nelson in 1919.

12. **Fomes senex** (Nees. & Mont.) Sacc. Syll. Fung. **6**: 164. 1888.

Polyporus senex Nees & Mont. Ann. Sci. Nat. II. **5**: 70. 1836.

On dead wood, Porto Rico:—tropical and subtropical America.

Spores hyaline, globose, 4 μ diameter. Setae present, conspicuous, 8–11 μ diameter. I have examined a fragment of the type of this species at Cincinnati in which I find only hyaline spores. I refer here, therefore, a collection by Shafer *3683* in 1914, and one by Seaver and Chardon *283* in 1923.

13. **Fomes Underwoodii** (Murrill) Sacc. & D. Sacc. in Sacc. Syll. Fung. **17**: 117. 1905.

Pyropolyporus Underwoodii Murrill, Bull. Torrey Club **30**: 116. 1903.

On old stumps and dead trees, Porto Rico; St. Thomas:—Cuba; Jamaica. Reported as *Fomes badius* Berk. by Stevenson.

Doubtful and Excluded Species.

Fomes calcitratus Berk. & Curt. There is no *F. calcitratus* at New York from Porto Rico, and I agree with Lloyd that most of the specimens Murrill refers here are *F. pseudosenex*. I presume Stevenson's record is on the basis of Murrill's determinations. I believe the species occurs in Cuba and may be expected in Porto Rico.

Fomes linteus Berk. Reported by Stevenson, probably on the basis of the collection here made the type of *F. portoricensis*. *F. linteus* does not have imbedded setae.

4. **HEXAGONA** Pollini, Pl. Nov. 35. 1816.

1. **Hexagona leprosus** Fries, Nov. Symb. 101. 1851.

Favolus leprosus (Fries) Murrill, N. Am. Fl. **9**: 83. 1908.

On dead wood, St. Jan:—endemic.

2. **Hexagona variegata** Berk. Ann. Mag. Nat. Hist. II. **9**: 196. 1852.

Favolus variegatus (Berk.) Murrill, Bull. Torrey Club **32**: 101. 1905.

On dead wood, Porto Rico:—tropical America.

5. **LASCHIA** Fries, Linnaea **5**: 533. 1830.

1. **Laschia pezizoidea** Berk. & Curt. Jour. Linn. Soc. **10**: 322. 1868.

On rotten wood, Porto Rico:—Cuba.

Three collections by Johnston are referred here more or less tentatively, collected in 1911 and 1912 and numbered *117*, *333*, and *435*.

6. **LENZITES** Fries, Gen. Hym. 10. 1836.

1. **Lenzites saepiaria** (Wulf.) Fries, Epicr. Myc. 407. 1838.

Agaricus saepiarius Wulfen, in Jacq. Coll. **1**: 339. 1786.
Gloeophyllum hirsutum (Schaeff.) Murrill, Jour. Myc. **9**: 94. 1903.

On dead wood, Porto Rico:—north temperate zone, rarely tropical and subtropical.

A single collection made at Arecibo by Earle in 1918 is the basis of this record. It differs from *L. striata* in the presence of a red or rusty coloration in the surface of the pileus, a tendency to be more strongly zonate, more pubescent, and with thicker gills.

2. **Lenzites striata** (Sw.) Fries, Epicr. Myc. 406. 1838.

Agaricus striatus Sw. Prodr. 148. 1788.
Gloeophyllum striatum (Sw.) Murrill, Bull. Torrey Club **32**: 370. 1905.

On dead wood, Porto Rico; St. Jan:—tropical America.

7. **MERULIUS** Haller, Hist. Stirp. Helvetiae **3**: 150. 1768.

1. **Merulius byssoideus** Burt, Ann. Missouri Bot. Gard. **4**: 358. 1917.

On soil, Porto Rico:—endemic.

2. **Merulius rugulosus** Berk. & Curt. Jour. Linn. Soc. **10**: 323. 1868.

On dead wood, Porto Rico:—Cuba; Jamaica.

According to Burt (Ann. Missouri Bot. Gard. **4**: 337) *Corticium saccharinum* Berk. & Curt. is a synonym of this species.

3. **Merulius sulphureus** Burt, Ann. Missouri Bot. Gard. **4**: 333. 1917.

On rotten wood, Porto Rico:—Florida.

8. **POLYPORUS** (Micheli) Paulet, Traité Champ. *pl. 13*. 1812.

1. **Polyporus aculeifera** (Berk. & Curt.) comb. nov.

Trametes aculeifera Berk. & Curt. Jour. Linn. Soc. **10**: 319. 1868.

On dead wood, Porto Rico:—Cuba; Florida; and South America.

The species was collected by Earle at Arecibo in 1918.

2. **Polyporus adustus** (Willd.) Fries, Syst. Myc. **1**: 363. 1821.

Boletus adustus Willd. Fl. Berol. 392. 1787.

On dead wood, Porto Rico:—cosmopolitan.

But two collections are known from the region, and the species has not been reported previously (Britton, Cowell, and Brown, *4492*, *1915*.).

3. **Polyporus albogilvus** Berk. & Curt. Jour. Linn. Soc. **10**: 308. 1868.

On dead wood, Porto Rico:—Cuba.

A single collection by Earle, *160*, so referred at New York seems rather doubtful to me. According to Lloyd *P. flavescens* Mont. is a synonym and Stevenson reports a plant under that name.

4. **Polyporus anebus** Berk. Hooker's Lond. Jour. Bot. **6**: 504. 1847.

On dead wood, Porto Rico:—oriental tropics and Africa.

I have not seen specimens of this species reported by Stevenson. Its distribution would not indicate its presence in Porto Rico.

5. **Polyporus antilopus** (Kalchbr.) Lloyd, Syn. Stip. Polyp. 142. 1912.

Polyporus vibecinus var. *antilopus* Kalchbr. Grevillea **10**: 53. 1881.

On dead wood, Porto Rico:—tropical regions of the world.

I so refer no. *3676* of the New York Botanical Garden Herbarium, after comparisons in the Lloyd Museum. Collected by Shafer in 1914, but not otherwise known from the region.

6. **Polyporus argillaceus** (Murrill) comb. nov.

Ganoderma argillaceum Murrill, N. Am. Fl. **9**: 122. 1908.

On dead trunks, St. Croix:—Cuba; Mexico; Grenada.

7. **Polyporus armenicolor** Berk. & Curt. Jour. Linn. Soc. **10**: 315. 1868.

Coriolus armenicolor (Berk. & Curt.) Pat. Tax. Hymen. 94. 1900.

On dead wood, Porto Rico:—Cuba.

8. **Polyporus Blanchetianus** Berk. & Mont. Ann. Sci. Nat. III. **11**: 238. 1849.

On dead wood, Porto Rico:—tropical America.

Two collections from the island have been seen: by Stevens in 1913, *2802*, and by Seaver and Chardon in 1923, *613*.

9. **Polyporus Brittonii** (Murrill) comb. nov.

Amauroderma Brittonii Murrill, Mycologia **2**: 193. 1910.

On dead wood, Porto Rico:—Jamaica.

Two specimens that I refer here with some hesitation were collected by Nelson in 1919. They are much smaller than the type and may represent an undescribed species. The spores measure 7–8 × 4–6 μ and are echinulate. I did not succeed in getting good spores from the type of *P. Brittonii*. Murrill records them as subglobose, 7–8 μ.

10. **Polyporus Chaperi** (Pat.) Lloyd, Syn. Stip. Pol. 112. 1912.

Ganoderma Chaperi Pat. Jour. de Bot. **4**: 197. 1890.

On dead wood, Porto Rico:—Cuba.

11. **Polyporus caperatus** Berk. Ann. Mag. Nat. Hist. **3**: 391. 1839.

Coriolopsis caperata (Berk.) Murrill, N. Am. Fl. **9**: 77. 1908.

On dead wood. Porto Rico:—tropical America; Asia; Africa.

12. **Polyporus caryophyllus** (Cooke) Lloyd, Syn. Sect. Apus 358. 1915.

Formes caryophylleus Cooke, Grevillea **15**: 21. 1886.

On dead wood, Porto Rico:—South America.

Collected by Johnston in 1912, *590l*, and compared at the Lloyd Museum by me.

13. **Polyporus cinnamomeus** (Jacq.) Sacc. Michelia **1**: 362. 1878.

Boletus cinnamomeus Jacq. Coll. **1**: 116. 1786.
On the ground, St. Thomas:—cosmopolitan.
Reported as *P. oblectans* Berk., usually regarded as a synonym.

14. **Polyporus colossus** Fries, Nov. Symb. 40. 1851.

Tomophagus colossus (Fries) Murrill, Torreya **5**: 197. 1905.
On rotten wood, St. Croix; St. Jan:—Yucatan; Costa Rica.

Several large specimens of this rare species were collected by Seaver in 1923 on the inside of a large decaying stump. It belongs to the section *Ganoderma*.

15. **Polyporus conchoides** (Mont.) Lloyd, Syn. Sect. Apus 331. 1915.

Gloeoporus conchoides Mont. Pl. Cell. Cuba 234. 1845.

On dead wood, Porto Rico:—tropical and subtropical America.

Reported only by Sintenis. Not collected in recent years, though should occur in the region.

16. **Polyporus concrescens** Mont. Ann. Sci. Nat. II. **3**: 350. 1835.

On dead wood, Porto Rico:—Cuba.

The specimens referred here at New York are scarcely in good enough condition to be named. The plant has some of the characters of *P. zonalis*, but is very thin. Closely related to *P. stereinus* Berk. & Curt.

17. **Polyporus depauperatus** Pat. Jour. de Bot. **3**: 166. 1889.

Coriolus depauperatus (Pat.) Murrill, N. Am. Fl. **9**: 20. 1907.

On rotten wood, Porto Rico:—Cuba; Venezuela.

A single collection by Earle in 1919, *231*, belongs here.

18. **Polyporus discoideus** Berk. & Curt. Jour. Linn. Soc. **10**: 305. 1868.

On dead wood, Porto Rico:—Cuba; Brazil.

P. Marbleae Murrill is a synonym.

19. **Polyporus distortus** (Schw.) Fries, Elench. Fung. 79. 1828.

Boletus distortus Schw. Schr. Nat. Ges. Leipzig **1**: 97. 1822.

On dead wood, Porto Rico:—continental North America.

20. **Polyporus Drummondii** Klotzsch, Linnaea **5**: 520. 1830.

Coriolus Drummondii (Klotzsch) Pat. Tax. Hym. 94. 1900.

On dead trunks, Porto Rico:—subtropical North America.

21. **Polyporus ectypus** Berk. & Curt. Grevillea **1**: 52. 1872.

Coriolus ectypus (Berk. & Curt.) Pat. Tax. Hym. 94. 1900.

On dead wood, Porto Rico:—continental North America.

22. **Polyporus fimbriatus** Fries, Linnaea **5**: 520. 1830.

On dead wood, Porto Rico:—tropical regions.

The poroid condition of this species has not yet been collected in Porto Rico or at best specimens show only a trace of a polyporoid hymenial configuration. Five or six collections with a hydnoid hymenium are known from the island and would be referred to *Hydnum multifidum* (Klotzsch) P. Henn., the types of which are hydnoid as described by Hennings. The types of *P. fimbriatus* are said by Lloyd to be poroid, and a collection at New York from Alabama is in part distinctly poroid and in part hydnoid. Stevens, *7001*, *9051*, Lopez, *39*, and Earle, *292*, belong here.

Whether or not the specimens referred to in Stevenson's check-list as *P. Drummondii* belong here I cannot say since the collections are not at New York, but Murrill referred most of the collections that came to him to that species.

23. **Polyporus flaviporus** (Murrill) Stevenson, Jour. Dept. Agr. Porto Rico **2**: 190. 1918.

Amauroderma flaviporum Murrill, N. Am. Fl. **9**: 116. 1906.

On dead wood, Porto Rico:—Jamaica.

A study of the type collection of this species reveals the fact that the spores are 9–12 × 6.8 μ, not 6–7 × 4–5 μ as originally stated.

24. **Polyporus fruticum** Berk. & Curt. Jour. Linn. Soc. **10**: 310. 1868.

Inonotus fruticum (Berk. & Curt.) Murrill, Bull. Torrey Club **31**: 601. 1904.

On branches of living trees or on dead wood, Porto Rico; Mona Island; Vieques:—Cuba; Bahamas; Jamaica; subtropical United States; Africa.

25. **Polyporus fulvocinereus** (Murrill) comb. nov.

Coriolopsis fulvocinerea Murrill, N. Am. Fl. **9**: 76. 1908.

On dead wood, Porto Rico; St. Croix; St. Thomas:—Cuba; Jamaica; Hispaniola; Barbados.

26. **Polyporus fumosus** (Pers.) Fries, Obs. Myc. **2**: 257. 1818.

Boletus fumosus Pers. Syn. Fung. 530. 1801.

On dead wood, Porto Rico:—cosmopolitan.

A single collection by Britton, Cowell, and Brown, *3943*, 1915, agreeing in all respects except of small size and on that basis similar to *P. adustus*, but I think correctly referred here.

27. **Polyporus gilvus** (Schw.) Fries, Elench. Fung. 104. 1828.

Boletus gilvus Schw. Schr. Nat. Ges. Leipzig **1**: 96. 1822.

On dead wood, Porto Rico; Tortola; Vieques; St. Thomas:—cosmopolitan.

28. **Polyporus guyanensis** Mont. Syll. Crypt. 153. 1856.

On dead wood, Porto Rico:—tropical America.

One collection by *Johnston, 740*, in 1912 is referred here after comparisons at the Lloyd Museum. *P. hemicapnodes* Berk. & Br. is similar but apparently more of the consistency of the *P. varius* group—hence not so fleshy as was apparently this species.

29. **Polyporus haedinus** Berk. Jour. Bot. & Kew Misc. **8**: 234. 1856.

Coriolus haedinus (Berk.) Pat. Tax. Hym. 94. 1900.

On dead wood, Porto Rico:—continental South America.

30. **Polyporus hirsutus** (Wulf.) Fries, Syst. Myc. **1**: 367. 1821.

Boletus hirsutus Wulfen, in Jacq. Coll. **2**: 149. 1788.

On dead deciduous wood of various kinds, Porto Rico; St. Thomas:—continental North America; Europe; Asia.

31. **Polyporus havannensis** Berk. & Curt. Jour. Linn. Soc. **10**: 310. 1868.

Trametes havannensis (Berk. & Curt.) Murrill, N. Am. Fl. **9**: 44. 1907.

On dead wood, St. Thomas, Porto Rico:—Cuba.

Reported by Stevenson and collected by Fink in 1918. Lloyd and Stevenson both suggest that it may be referable to *Polyporus subfulvus* Berk. but there appear to be good distinguishing characters to separate the species, especially under the microscope. *P. subfulvus* is a manuscript name proposed by Berkeley and used by Lloyd for *P. ochrotinctellus* Murrill, as I understand it. The *Trametes havannensis* specimens at New York are not the same as that species. Besides, there is a *P. subfulvus* Cooke, the history of which I have not been able to trace.

32. **Polyporus iodinus** Mont. Ann. Sci. Nat. II. **16**: 108. 1841.

Cycloporellus iodinus (Mont.) Murrill, N. Am. Fl. **9**: 85. 1908.

On dead wood, Porto Rico:—tropical America.

At least five collections of this hitherto unreported species are at New York.

33. **Polyporus licnoides** Mont. Pl. Cell. Cuba 243. 1845.

Hapalopilus licnoides (Mont.) Murrill, Bull. Torrey Club **31**: 417. 1904.

On dead wood, Porto Rico; St. Croix:—tropical and subtropical America.

var. *sublilacinus* Ellis & Ev. Bull. Torrey Club **27**: 50. 1900.

On dead wood, Porto Rico:—tropical and subtropical America.

This is the perennial form of *P. licnoides*, the margin and the hymenium continuing growth.

34. **Polyporus lignosus** Klotzsch, in Fries, Epicr. Myc. 471. 1838.

Fomes Auberianus (Mont.) Murrill, Bull. Torrey Club **32**: 491. 1905.

On dead or injured trees, Porto Rico:—tropical regions.

35. **Polyporus lucidus** (Curt.) Fries, Syst. Myc. **1**: 353. 1821.

Boletus lucidus Curt. Fl. Lond. **4**: 72. 1781.

On dead wood or from wounds in living trees, Porto Rico:—Europe; North and South America; Africa.

36. **Polyporus maximus** (Mont.) comb. nov.

Irpex maximus Mont. Ann. Sci. Nat. II. **8**: 364. 1837.

On dead wood, Porto Rico; Vieques; St. Thomas:—Cuba.

37. **Polyporus modestus** Fries, Linnaea **5**: 519. 1830.

Coriolus brachypus (Lév.) Murrill, Bull. Torrey Club **32**: 646. 1906.

On dead wood, Porto Rico:—tropical regions.

No specimens of this species have been seen and it is known only from Klotzsch's report on the Schwanecke collection, though not uncommon in tropical America.

38. **Polyporus mutabilis** Berk. & Curt. Ann. Mag. Nat. Hist. II. **12**: 433. 1853.

Microporellus dealbatus Murrill, Bull. Torrey Club **32**: 483. 1905.

On dead wood, Porto Rico:—tropical and North America.

39. **Polyporus nitidus** (Murrill) comb. nov.

Ganoderma nitidum Murrill, N. Am. Fl. **9**: 123. 1908.

On dead wood, Porto Rico:—Honduras.

This is recorded by Stevenson under the name *P. fulvellus* Bres.

40. **Polyporus nivosellus** (Murrill) Stevenson, Jour. Dept. Agr. Porto Rico **2**: 191. 1918.

Tyromyces nivosellus Murrill, N. Am. Fl. **9**: 32. 1907.

On dead palm trunks, *Cocos* and *Roystonea*, Porto Rico:—Cuba.

This seems to be very close to *P. Calkinsii* and probably is one extreme of development of that species.

41. **Polyporus obolus** Ellis & Macbr.; Ellis & Ev. Bull. Lab. Nat. Hist. Univ. Iowa **4**: 68. 1896.

On dead wood, Porto Rico:—tropical America.

Two collections referred to this species are preserved at New York, both by Britton and Cowell, *3088* and *1050*. The species is readily distinguished by the gelatinous nature of the context which in crushed preparations is seen to be made up entirely of gelatinous hyphae of large diameter with numerous cross walls, and very irregular in form.

42. **Polyporus occidentalis** Klotzsch, Linnaea **8**: 486. 1833.

Coriolopsis occidentalis (Klotzsch) Murrill, Bull. Torrey Club **32**: 358. 1905.

On various kinds of dead wood, Porto Rico:—St. Vincent; West Indies.

43. **Polyporus ochrotinctellus** (Murrill) comb. nov.

Coriolus ochrotinctellus Murrill, N. Am. Fl. **9**: 22. 1907.

On dead wood, Porto Rico:—Cuba; subtropical North America.

Stevenson reports this species under the name *P. subfulvus* Berk., a manuscript name resurrected by Lloyd to apply to it.

44. **Polyporus pallidofulvellus** (Murrill) comb. nov.

Coriolus pallidofulvellus Murrill, N. Am. Fl. **9**: 20. 1907.

On dead wood, Porto Rico:—Cuba; subtropical North America. Collected by Seaver and Chardon in 1923 and by Mrs. Britton and Miss Marble in 1906. Perhaps too close to *P. biformis* Klotzsch of temperate regions.

45. **Polyporus Palmarum** (Murrill) Sacc. & Trott. in Sacc. Syll. Fung. **21**: 279. 1912.

Tyromyces Palmarum Murrill, N. Am. Fl. **9**: 32. 1907.

On dead wood, usually on palm trunks, Porto Rico:—Cuba; Jamaica.

Collected by Johnston in 1912, *717*. Perhaps too close to *P. nivosellus*.

46. **Polyporus pargamenus** Fries, Epicr. Myc. 480. 1838.

On dead wood, Porto Rico:—continental North America; Europe.

Collected by Kern and Whetzel in 1924. The specimens are small but would probably be referable to *P. elongatus* Berk., the tropical form of *P. pargamenus* when mature.

47. **Polyporus pavonius** (Hook.) Fries. Epicr. Myc. 477. 1838.

Boletus pavonius Hook. in Kunth, Syn. Pl. **1**: 10. 1822.

On dead wood, Porto Rico, St. Thomas; St. Jan:—Colombia to southern Florida.

48. **Polyporus perzonatus** (Murrill) Stevenson, Jour. Dept. Agr. Porto Rico **2**: 191. 1918.

Ganoderma perzonatum Murrill, N. Am. Fl. **9**: 121. 1908.

On dead wood, Porto Rico:—Cuba.

49. **Polyporus pinsitus** Fries, Elench. Fung. 95. 1828.

Coriolus pinsitus (Fries) Pat. Tax. Hym. 94. 1900.

On dead wood, Porto Rico; St. Thomas; Culebra:—continental North and South America.

50. **Polyporus pulverulentus** (Murrill) comb. nov.

Ganoderma pulverulentum Murrill, N. Am. Fl. **9**: 121. 1908.

On dead wood, St. Thomas:—Bahamas; Cuba; Grenada.

51. **Polyporus rhipidium** Berk. in Hooker's Jour. Bot. **6**: 319. 1847.

On dead wood, Porto Rico; St. Thomas:—widely distributed in temperate and tropical regions.

The species was collected in Porto Rico by Fink and by Seaver and Chardon.

52. **Polyporus rigidus** Lév. Ann. Sci. Nat. III. **2**: 189. 1844.

On dead wood, Porto Rico:—tropical and subtropical regions.

Collected by Kern and Whetzel in 1924, by Earle in 1920, *324*, by Seaver and Chardon in 1923, *468*, and others. The species name is here applied to the pubescent and less zoned form that is sometimes referred to *P. zonalis*, but seems sufficiently distinct for recognition.

53. **Polyporus sanguineus** (L.) Fries, Epicr. Myc. 444. 1838.

Boletus sanguineus L. Sp. Pl. ed. 2. 1646. 1762.

On dead wood, Porto Rico; Mona Island; Vieques; Culebra; St. Croix; St. Jan; St. Thomas:—tropical and subtropical regions of the world.

54. **Polyporus sector** (Ehr.) Fries, Syst. Myc. **1**: 505. 1821.

Boletus sector Ehr. Horae Phys. Berol. 86. 1820.

On dead wood, Porto Rico; St. Jan:—West Indies; continental North and South America.

Two collections have been seen from the region; one in 1913 by Stevens, *1568*, and another by Mrs. Britton and Miss Marble in 1906, *1196*.

55. **Polyporus spadiceus** Jungh. Crypt. Java, 54. 1838.

On dead wood, Porto Rico:—tropical regions.

A single collection by Earle in 1918, *174*, is preserved at New York. The fungus was recognized by Mr. Lloyd, who regards it as a thick form of *P. tabacinus*.

56. **Polyporus spathulatus** (Hook.) Fries, Epicr. Myc. 443. 1838.

Boletus spathulatus Hooker in Kunth, Syn. Pl. **1**: 9. 1822.

On dead wood, Porto Rico:—tropical America.

57. **Polyporus stereinus** Berk. & Curt. Jour. Linn. Soc. **10**: 308. 1868.

Rigidoporus Liebmanni (Fries) Murrill, N. Am. Fl. **9**: 46. 1907.

On dead wood, Porto Rico:—Cuba; Mexico.

One collection so referred is preserved at New York. It is hardly in good enough condition to warrant a reference, and similar collections should also be compared with *P. concrescens* Mont. Both resemble very thin zonate forms of *P. zonalis*.

58. **Polyporus subelegans** Murrill, N. Am. Fl. **9**: 62. 1907.

On dead wood, St. Thomas:—Jamaica; Nicaragua.

I have seen no specimens of this from Porto Rico.

59. **Polyporus subglabrescens** (Murrill) comb. nov.

Coriolopsis subglabrescens Murrill, N. Am. Fl. **9**: 77. 1908.

On dead wood, Porto Rico:—Cuba; Jamaica.

60. **Polyporus subincrustatus** (Murrill) comb. nov.

Ganoderma subincrustatum Murrill, N. Am. Fl. **9**: 122. 1908.

On dead wood, Porto Rico:—British Honduras; Jamaica.

61. **Polyporus submurinus** (Murrill) Lloyd, Syn. Apus of Polyporus 307. 1915.

Trametes submurina Murrill, N. Am. Fl. **9**: 43. 1907.

On rotten wood, Porto Rico; St. Jan:—Cuba; Jamaica.

62. **Polyporus sulphureus** (Bull.) Fries, Syst. Myc. **1**: 357. 1821.

Boletus sulphureus Bull. Herb. Fr. *pl. 429.* 1788.
Laetiporus speciosus (Batt.) Murrill, Bull. Torrey Club **31**: 607. 1904.

On trunks of deciduous trees, Porto Rico:—cosmopolitan.

The only record is from the Sintenis collection. I have seen specimens from Jamaica and other tropical stations.

63. **Polyporus supinus** (Sw.) Fries, Syst. Myc. **1**: 376. 1821.

Boletus supinus Sw. Fl. Ind. Occ. 1926. 1806.

On dead wood, Porto Rico:—tropical and subtropical regions of the world.

64. **Polyporus Taylori** (Murrill) comb. nov.

Coriolopsis Taylori Murrill, N. Am. Fl. **9**: 76. 1908.

On dead wood, Porto Rico; St. Jan:—Honduras; Cuba.

Four collections of this species have been examined, all by Earle, the only numbers noted being *49½* and *165*.

65. **Polyporus tenuis** Sacc. Syll. Fung. **6**: 288. 1888.

On dead wood, Porto Rico:—tropical and subtropical regions.

This is *Polyporus* (*Coriolus*) *membranaceus* of Murrill's writings. Lloyd claims a misuse of the name by Murrill.

Boletus tenuis of Link, I do not find published. It is not in "Berl. Mag." (Ges. Nat. Freunde Berlin Mag.) as recorded by Cooke in "Praecursores Polypororum" and the description given by Saccardo is apparently drawn from the original collection. Consequently the name was a "nomen nudum" until the species was described by Saccardo.

66. **Polyporus Tricholoma** Mont. Ann. Sci. Nat. II. **8**: 365. 1837.

On dead wood, Porto Rico; St. Jan; St. Kitts:—tropical America.

Stevenson's reference of *P. obolus* here is an error, though undoubtedly *P. Cowellii* Murrill is the same species.

67. **Polyporus Tulipiferae** (Schw.) Overholts, Washington Univ. Stud. **3**: 29. 1915.

Boletus Tulipiferae Schw. Schr. Nat. Ges. Leipzig **1**: 99. 1822.
Irpiciporus lacteus (Fries) Murrill, N. Am. Fl. **9**: 15. 1907.

On dead wood, Porto Rico:—North America; Europe; Asia.

A single collection, not hitherto reported, is at New York, collected by Stevens in 1915, *7091*. The microscopic characters agree with the species of temperate regions.

68. **Polyporus versicolor** (L.) Fries, Syst. Myc. **1**: 368. 1821.

Boletus versicolor L. Sp. Pl. 1176. 1753.

On dead wood, Porto Rico:—cosmopolitan.

The species is not common in the region. I have seen but two collections.

69. **Polyporus vinosus** Berk. Ann. Mag. Nat. Hist. II. **9**: 196. 1852.

Nigroporus vinosus (Berk.) Murrill, Bull. Torrey Club **32**: 361. 1905.

On dead wood, Porto Rico:—tropical and subtropical North America.

Three collections have been seen: Johnston and Stevenson, *1504* in 1914; Fink, *2146* in 1916; Seaver and Chardon, *380*, in 1923.

70. **Polyporus zonalis** Berk. Ann. Mag. Nat. Hist. **10**: suppl. 375. 1843.

Rigidoporus surinamensis (Miq.) Murrill, Bull. Torrey Club **34**: 473. 1907.

On dead wood, Porto Rico:—tropical and subtropical regions of the world.

Doubtful and Excluded Species.

Polyporus amboinensis Fries is reported from the Sintenis collection. The plants represent undoubtedly one of the segregates from *P. lucidus*, but which one is uncertain.

Polyporus crocatus Fries. Stevenson lists the species but the collection, *9011*, on which the report was probably based, preserved at New York, is *P. caperatus*, a very different plant. *P. byrsinus* is a synonym

Polyporus elongatus Berk. This is the tropical homologue of *P. pargamenus* Fries.

Polyporus gracilis Klotzsch. Perhaps a synonym for *P. obolus*.

Polyporus hemileucus Berk. Same as *P. supinus*.

Polyporus hirtellus Fries as reported by Stevenson is *P. hirsutus*.

Polyporus Hollickii Murrill. Both Murrill and Lloyd are in error as to this species. But a single collection, the type, is known, and from Jamaica. The other collections at New York are in part *P. haranensis*, and perhaps in part something else. Lloyd evidently based his idea, not on the type collection, but on the collections Murrill misreferred here.

Polyporus Leprieurii Mont. Reported only from the Sintenis collection. Specimens collected by Johnston and similar to *P. Leprieurii* and *P. hemicapnodes* I would refer rather to *P. guyanensis* after comparisons in the Lloyd museum.

Polyporus obtusus Berk. The status of this species is in doubt. It was reported by Sintenis (as *P. unicolor*) but not otherwise known. A similar, or perhaps identical species, *P. luridescens* Murrill, is known from Jamaica.

Polyporus papyraceus Fries, was described from plants collected in Porto Rico. Dr. Murrill reports that the types cannot be found. It would probably fall under *P. tenuis* of this list.

Polyporus polyzonus Pers. I find no record of this species except as in Stevenson's report.

Polyporus pusillus Pers. is said to be a synonym for *P. rhipidium* Fries.

Polystictus rigens is *Trametes rigida*.

Polyporus rugulosus Lév. This species would probably fall under either *P. zonalis* or *P. rigidus*.

Polyporus semilaccatus. Lloyd gives a resumé of this species on page 337 of his Synopsis of Section Apus. Its known distribution would not indicate its presence in this region.

Polystictus sinuosus (Fries) Lloyd, as reported in Myc. Notes **45**: 626 seems to me to be referable to the plants I have listed as *P. Tulipiferae* (Schw.) but I have not seen the collection.

Polyporus variiporus Murrill. Only a variant of *P. Tricholoma*.

Polystictus velutinus Fries, I do not know from Porto Rico. Stevenson lists it.

9. **PORIA** Pers. Neues Mag. Bot. **1**: 109. 1794.

1. **Poria albocincta** Cooke & Massee, Grevillea **20**: 106. 1892.

Tinctoporia albocincta (Cooke & Massee) Murrill, Mycologia **13**: 122. 1921.
Poria Fuligo aurantiotingens Ellis & Macbr. Bull. Lab. Nat. Hist. Univ. Iowa **3**: 191. 1896.

On dead wood, Porto Rico:—Mexico; Guadeloupe.

2. **Poria eupora** Karst. Not. Faun. Fl. Fenn. **9**: 360. 1868.

Poria attenuata (Peck) Cooke, Grevillea **14**: 110. 1886.

On dead wood, Porto Rico:—eastern United States; Europe.

An excellent collection of this species, typical in every respect, was made by Stevenson at Rio Piedras in 1916, *5587*.

3. **Poria heteromorpha** Murrill, Mycologia **12**: 92. 1920.

On rotten wood, Porto Rico:—Jamaica, Florida.

4. **Poria subcollapsa** Murrill, Mycologia **12**: 90. 1920.

On banana trash, Porto Rico:—Jamaica.

5. **Poria vincta** Berk. Ann. Mag. Nat. Hist. II. **9**: 196. 1852.

On dead wood, Santo Domingo:—tropical America.

10. **RIMBACHIA** Pat. Bull. Soc. Myc. Fr. **7**: 159. 1891.

1. **Rimbachia pezizoidea** (Speg.) Lloyd, Myc. Notes **5**: 817. 1919.

Merulius pezizoideus Speg. Bol. Acad. Ci. Cordoba **11**: 455. 1889.

On rotten wood, Porto Rico:—Brazil.

The type species, *R. paradoxa* Pat., is described as growing among moss and with a *superior* venose hymenium. I would judge that the plants in the collection I refer here (Johnston, *655*) have a *pendant* disk with an inferior hymenium and a dorsal or latero-dorsal stipe insertion, but the hymenium is merulioid and not radiate-venose as in *Campanella*. If the superior hymenium be established as a generic character of *Rimbachia* then *R. pezizoidea* is not co-generic in my opinion. Lloyd has stated that the plants are co-specific. It is probably at any rate a close relative of *Campanella cucullata* which has a radiate venose hymenium and is therefore classed in the *Agaricaceae* (see Lloyd's Myc. Notes, **58**: 815. 1919). Its merulioid hymenium would suggest the *Polyporaceae* for Johnstons plants and by stretching the generic limits of *Merulius* might be included there as was originally done by Spegazzini, or might be regarded as a transition from *Merulius* to *Laschia*.

11. **SOLENIA** Pers. Neues Mag. Bot. **1**: 116. 1794.

1. **Solenia anomala** (Pers.) Fuckel, Symb. Myc. App. **1**: 290. 1877.

Peziza anomala Pers. Obs. Myc. **1**: 29. 1796.

On dead twigs, Porto Rico:—temperate and tropical North America.

2. **Solenia candida** Pers. Neues Mag. Bot. **1**: 116. 1794.

On dead bamboo stems, Porto Rico:—temperate and tropical America; also in Europe.

I refer here a scanty collection made by J. R. Johnston, *1324*, in 1914.

12. **TRAMETES** Fries, Gen. Hym. 11. 1836.

1. **Trametes cirrifer** (Berk. & Curt.) comb. nov.

Polyporus cirrhiferus Berk. & Curt. Jour. Linn. Soc. **10**: 314. 1868.

On dead wood, Porto Rico:—Cuba.

Trametes ocellatus Berk. seems to be the same plant.

2. **Trametes cubensis** (Mont.) Sacc. Syll. Fung. **9**: 198. 1891.

Polyporus cubensis Mont. Ann. Sci. Nat. II. **8**: 364. 1837.

On dead wood, Porto Rico:—St. Vincent; Cuba.

3. **Trametes hydnoides** (Sw.) Fries, Epicr. Myc. 490. 1838.

Boletus hydnoides Sw. Prodr. 149. 1788.

On dead wood, Porto Rico; Mona Island; Culebra; St. Thomas:—tropical and subtropical America.

4. **Trametes malicola** Berk. & Curt. Jour. Acad. Phil. II. **3**: 209. 1856.

On dead wood, Porto Rico:—temperate North America; rarely in subtropical and tropical regions.

One collection is referred here from the Stevens collections, *9010*, and one, *704*, from Fink's collection in 1915.

5. **Trametes nivosa** (Berk.) Murrill, N. Am. Fl. **8**: 42. 1907.

Polyporus nivosus Berk. Jour. Bot. & Kew Misc. **8**: 196. 1856.

On dead wood, Porto Rico:—continental South America; perhaps also on the North American continent.

I refer here a single collection taken from fence posts by Earle in 1922 (unnumbered). The specimen was compared at the Lloyd Museum following its recognition by Mr. Lloyd. I do not include specimens on cane stalks at New York determined by Murrill and apparently the basis of previous records of this species from the region.

6. **Trametes rigida** Berk. & Mont. Ann. Sci. Nat. III. **11**: 240. 1849.

Polystictus rigens Sacc. & Cub. in Sacc. Syll. Fung. **6**: 274. 1888.

On dead wood, Porto Rico; St. Thomas:—continental America.

The plant is a better *Polyporus* (*Polystictus*) than *Trametes*.

7. **Trametes serpens** Fries, Hym. Eur. 586. 1874.

On dead wood, Porto Rico; St. Thomas:—tropical and subtropical America.

Murrill considers the European *T. serpens* to be different from the American plant and for the latter has proposed the name *Trametes subserpens* Murrill (Mycologia **12**: 108. 1920).

A collection by Stevens, *8988*, in 1915 and one by Seaver and Chardon, *296*, in 1923 are referred here.

8. **Trametes submurina** Murrill, N. Am. Fl. **9**: 43. 1907.

Polyporus submurinus (Murrill) Lloyd, Syn. Apus Genus Polyporus 307. 1915.

On rotten wood, Porto Rico:—St. Jan; Cuba; Jamaica.

Doubtful and Excluded Species.

A number of species often referred to *Trametes* will be found listed here under *Polyporus*.

Family 6. **AGARICACEAE.**

1. **AGARICUS** L. Sp. Pl. 1171. 1753.

1. **Agaricus Johnstonii** Murrill, Mycologia **10**: 75. 1918.

On humus in woods, Porto Rico:—endemic.

2. **COLLYBIA** Quél. Champ. Jura Vosg. 56. 1872.

1. **Collybia tenuipes** (Schw.) Sacc. Syll. Fung. **5**: 213. 1887.

Agaricus tenuipes Schw. Trans. Am. Phil. Soc. II. **4**: 147. 1822.

On dead wood, Porto Rico:—West Indies; continental North and South America.

3. **COPRINUS** Pers. Tent. Disp. Fung. 62. 1797.

1. **Coprinus armillaris** Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 28. 1857.

On the ground, St. Thomas:—endemic.

2. **Coprinus plicatilis** Fries, Epicr. Myc. 252. 1838.

Apparently on the ground, Porto Rico:—cosmopolitan.

A collection by Seaver and Chardon in 1923 has the peculiar compressed citron-shaped spores of this species.

4. **CORTINARIUS** Fries, Epicr. Myc. 255. 1838.

1. **Cortinarius Sintenisii** P. Henn. Engl. Jahrb. **17**: 498. 1893.

On trunks, Porto Rico:—endemic.

5. **CREPIDOTUS** (Fries) Quél. Champ. Jura Vosg. 106. 1872.

1. **Crepidotus fumosifolius** Murrill, Mycologia **5**: 31. 1913.

On dead log, Porto Rico:—West Indies; continental America.

6. **FLAMMULA** Quél. Champ. Jura Vosg. 97. 1872.

1. **Flammula Earlei** Murrill, Mycologia **5**: 36. 1913.

Gymnopilus Earlei Murrill, Mycologia **5**: 22. 1913.

On cocoanut logs, Porto Rico:—Jamaica.

7. **GALERA** (Fries) Quél. Champ. Jura Vosg. 103. 1872.

1. **Galera macromastes** (Fries) Sacc. Syll. Fung. **5**: 860. 1887.

Agaricus macromastes Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 226. 1851.

Reported from St. Thomas:—endemic.

2. **Galera tenera** (Schaeff.) Quél. Champ. Jura Vosg. 104. 1872.

Agaricus tener Schaeff. Fung. Bavar. **4**: ind. 33. 1774.

On lawns and manured pastures, Porto Rico:—Cuba; continental North America; Europe.

8. **HELIOMYCES** Lév. Ann. Sci. Nat. III. **2**: 177. 1844.

1. **Heliomyces subavellaneus** Murrill, N. Am. Fl. **9**: 248. 1915.

On mossy log, Porto Rico:—British Honduras.

9. **LENTINUS** Fries, Syst. Orbis Veg. 77. 1825.

1. **Lentinus chrysopeplus** Berk. & Curt. Jour. Linn. Soc. **10**: 301. 1868.

On dead wood, Porto Rico:—temperate and tropical North America; perhaps in South America.

A collection of three small sporophores was made by Seaver and Chardon, *267*, in 1923, and another by Earle, date not known. The generic relationships of the species are in doubt. It has been referred to *Tricholoma*, *Omphalia*, and *Collybia*. The appearance is that of *Flammula*.

2. **Lentinus crinitus** (L.) Fries, Syst. Orbis Veg. 77. 1825.

Agaricus crinitus L. Sp. Pl. ed. *2*. 1644. 1763.

On old logs, Mona Island; Porto Rico; St. Thomas:—Jamaica.

3. **Lentinus detonsus** Fries, Nov. Symb. Myc. 22. 1851.

Lentinula detonsa (Fries) Murrill, Mycologia **3**: 28. 1911.

On dead wood, Porto Rico:—West Indies; Costa Rica; continental North America.

4. **Lentinus echinulatus** (Murrill) comb. nov.

Crinipellis echinulata Murrill, N. Am. Fl. **9**: 288. 1915.

On dead herbaceous stems, Porto Rico:—Mexico.

Specimens collected by Seaver and Chardon in 1923 differ from Murrill's type collection so slightly that they can well be referred here.

5. **Lentinus hirtus** (Fries) Murrill, Mycologia **3**: 29. 1911.

Agaricus (*Pleurotus*) *hirtus* Fries, Linnaea **5**: 508. 1830.

On dead wood, Porto Rico; St. Thomas:—tropical regions of the world.

6. **Lentinus lepideus** Fries, Syst. Orbis Veg. 78. 1825.

Lentodium squamosum (Schaeff.) Murrill, Mycologia **3**: 27. 1911.

On timbers and logs, Porto Rico:—throughout temperate and tropical America; Europe; Asia.

7. **Lentinus scyphoides** Pat. Bull. Soc. Myc. Fr. **15**: 195. 1899.

On dead branches on the ground, Porto Rico:—Guadeloupe.

8. **Lentinus strigellus** Berk. & Curt. Jour. Linn. Soc. **10**: 308. 1868.

On dead wood, Porto Rico:—tropical America.

9. **Lentinus strigosus** (Schw.) Fries, Syst. Orbis Veg. 77. 1825.

Agaricus strigosus Schw. Schr. Nat. Ges. Leipzig **1**: 89. 1822.

On old logs and stumps, Porto Rico; Vieques:—cosmopolitan.

10. **Lentinus subocyphoides** Murrill, Mycologia **3**: 34. 1911.

On dead sticks in dense woods, Porto Rico:—Jamaica.

11. **Lentinus velutinus** Fries, Linnaea **5**: 510. 1830.

On wood, Porto Rico; St. Thomas:—Cuba; continental North and South America.

10. **LEPIOTA** P. Browne; S. F. Gray, Nat. Arr. Brit. Pl. 1: 601. 1821.

1. **Lepiota cepaestipes** (Sow.) Quél. Champ. Jura Vosg. 35. 1872.

Agaricus cepaestipes Sow. Engl. Fungi *Pl. 2*. 1795.

On rich ground, Porto Rico:—cosmopolitan.

2. **Lepiota cretacea** (Bull.) Morgan, Jour. Myc. **13**: 3. 1907.

Agaricus cretaceus Bull. Herb. Fr. *pl. 374*. 1787.

On rich ground, Porto Rico:—cosmopolitan.

3. **Lepiota Morgani** (Peck) Sacc. Syll. Fung. **5**: 31. 1887.

Agaricus Morgani Peck, Bot. Gaz. **4**: 137. 1879.

Chlorophyllum Molybdites Massee, Kew Bull. **1898**: 136. 1898.

On the ground, Porto Rico:—continental North and South America; West Indies.

4. **Lepiota rubrotincta** Peck, Ann. Rep. N. Y. State Mus. **44**: 179. 1892.
On the ground, Porto Rico:—continental North America.

11. **MARASMIUS** Fries, Gen. Hymen. 9. 1836.

1. **Marasmius Berteroi** (Lév.) Murrill, N. Am. Fl. **9**: 267. 1915.
Heliomyces Berteroi Lév. Ann. Sci. Nat. III. **2**: 177. 1844.
On trunks of trees, Porto Rico:—tropical North America.

2. **Marasmius borinquensis** Stevenson, Jour. Dept. Agr. Porto Rico **1**: 218. 1917.
On cane, Porto Rico:—endemic.

3. **Marasmius cinereialbus** Murrill, N. Am. Fl. **9**: 264. 1915.
In leaf mould, Porto Rico:—endemic.

4. **Marasmius Hiorami** Murrill, N. Am. Fl. **9**: 256. 1915.
On dead leaves and sticks in woods, Porto Rico:—endemic.

5. **Marasmius Johnstonii** Murrill, N. Am. Fl. **9**: 269. 1915.
On fallen dead leaves, Porto Rico:—endemic.

6. **Marasmius obsoletus** Murrill, N. Am. Fl. **9**: 265. 1915.
On dead wood, Porto Rico:—endemic.

7. **Marasmius pallescens** Murrill, N. Am. Fl. **9**: 261. 1915.
On leaves and sticks, Porto Rico:—endemic.

8. **Marasmius paucifolius** Murrill, N. Am. Fl. **9**: 262. 1915.
On dead leaves, Porto Rico:—endemic.

9. **Marasmius Peckii** Murrill, N. Am. Fl. **9**: 254. 1915.
On dead leaves, Porto Rico:—British Honduras.

10. **Marasmius portoricensis** Murrill, N. Am. Fl. **9**: 262. 1915.
On leaf mould, Porto Rico:—endemic.

11. **Marasmius Sacchari** Walker, Centr. Bakt. Parasit. Infekt. **2**: 44. 1896.
On living sugar cane, Porto Rico:—Java.

12. **Marasmius sarmentosus** Berk. Lond. Jour. Bot. **5**: 2. 1846.
Polymarasmius sarmentosus (Berk.) Murrill, N. Am. Fl. **9**: 286. 1915.
On dead wood, and leaves, Porto Rico:—Jamaica; Cuba; Guadeloupe; continental South America.

13. **Marasmius synodicus** (Kunze) Fries, Epicr. Myc. 381. 1838.
Agaricus (*Collybia*) *synodicus* Kunze; Fries, Linnaea **5**: 507. 1830.
On dead sticks, leaf stalks, grass, Porto Rico:—Cuba; Jamaica; Guadeloupe; continental South America.

14. **Marasmius Wilsonii** Murrill, N. Am. Fl. **9**: 261. 1915.

On fallen dead leaves, Porto Rico:—endemic.

12. **NAUCORIA** (Fries) Quél. Champ. Jura Vosg. 99. 1872.

1. **Naucoria papularis** (Fries) Sacc. Syll. Fung. **5**: 856. 1887.

Agaricus papularis Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 225. 1851.

Described from St. Thomas:—endemic.

13. **OMPHALIA** (Fries) S. F. Gray, Nat. Arr. Brit. Pl. **1**: 611. 1821.

1. **Omphalia euspeirea** (Berk. & Curt.) comb. nov.

Agaricus (*Mycena*) *euspeireus* Berk. & Curt. Jour. Linn. Soc. **10**: 285. 1868.

On decaying logs in woods, Porto Rico:—Cuba; Jamaica; continental South America.

2. **Omphalia lapidescens** (Horan.) Cohn & Schröt. Abh. Nat. Ver. Hamb. **11**: 15. 1891.

Reported from the Sintenis collection, Porto Rico:—Europe.
This species, in Europe, grows from a sclerotium, and only the sclerotial stage is said to be represented in the Sintenis collection, so that the occurrence of the species in this region is open to question.

14. **PANAEOLUS** Quél. Champ. Jura Vosg. 121. 1872.

1. **Panaeolus campanulatus** (L.) Quél. Jura Vosg. 122. 1872.

Agaricus campanulatus L. Sp. Pl. 1175. 1753.
Campanularius campanulatus (L.) Earle, Bull. N. Y. Bot. Gard. **5**: 434. 1909.

On manure and manured ground, Porto Rico:—probably cosmopolitan.

2. **Panaeolus solidipes** (Peck) Sacc. Syll. Fung. **5**: 1123. 1887.

Agaricus solidipes Peck, Ann. Rep. N. Y. State Cab. **23**: 101. 1872.
Campanularius solidipes (Peck) Murrill, Mycologia **10**: 31. 1918.

On horse manure, Porto Rico:—Cuba; Jamaica; continental North America.

15. **PANUS** Fries, Epicr. Myc. 396. 1838.

1. **Panus concavus** Berk. Ann. Mag. Nat. Hist. II. **9**: 194. 1852.

Lentodiellum concavum (Berk.) Murrill, Mycologia **7**: 216. 1915.

On dead wood, Porto Rico:—tropical America.

2. **Panus eugrammus** (Mont.) Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 40. 1851.

Agaricus (*Pleurotus*) *eugrammus* Mont. Ann. Sci. Nat. II. **8**: 366. 1837.

On dead wood, Porto Rico:—tropical America.
The species has been variously named in *Pleurotus*, *Panus*, and *Lentinus*.

3. **Panus rudis** Fries, Epicr. Myc. 398. 1838.

Lentinus Lecomtei Fries, Syst. Orbis Veg. 77. 1825.

On dead wood, Porto Rico:—continental North America.

16. **PILOSACE** Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 25. 1851.

1. **Pilosace tricholepis** (Fries) Sacc. Syll. Fung. **5**: 1010. 1887.
Agaricus tricholepis Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 25. 1855.
Described from St. Thomas:—endemic.

17. **PLICATURA** Peck, Ann. Rep. N. Y. State Mus. **24**: 75. 1872.

1. **Plicatura obliqua** (Berk. & Curt.) Murrill, Mycologia **3**: 25. 1911.
Marasmius obliquus Berk. & Curt. Jour. Linn. Soc. **10**: 299. 1868.
On dead wood, Porto Rico:—West Indies; continental South America.

18. **PSATHYRA** Fries, Hymen. Eur. 304. 1874.

1. **Psathyra byssina** Murrill, Mycologia **10**: 33. 1918.
Atylospora byssina Murrill, Mycologia **10**: 20. 1918.
On dead wood, Porto Rico:—endemic.

19. **PSATHYRELLA** (Fries) Quél. Champ. Jura Vosg. 122. 1872.

1. **Psathyrella disseminatus** (Pers.) Quél. Champ. Jura Vosg. 123. 1872.
Psathyrella minutula (Schaeff.) Murrill, Mycologia **10**: 26. 1918.
On ground or on rotten wood, Porto Rico:—West Indies; continental North America; Europe.

2. **Psathyrella Stevensonii** Murrill, Mycologia **10**: 28. 1918.
On garden soil, Porto Rico:—endemic.

20. **SCHIZOPHYLLUM** Fries, Obs. Myc. **1**: 103. 1815.

1. **Schizophyllum Alneum** (L.) Schröt. Krypt.—Fl. Schles. 3^1: 553. 1889.
Agaricus Alneus L. Sp. Pl. *1176*. 1753.
Schizophyllus communis Fries, Obs. Myc. **1**: 103. 1815.
On dead wood, Porto Rico; St. Thomas; St. Croix; Culebra; Mona Island; St. Jan; Tortola:—cosmopolitan.

21. **SCYTINOTUS** P. Karst. Bidr. Finl. Nat. Folk **32**: 97. 1879.

1. **Scytinotus distantifolius** Murrill, N. Am. Fl. **9**: 239. 1915.
On dead sticks, Porto Rico:—endemic.

22. **STROPHARIA** (Fries) Quél. Champ. Jura Vosg. 110. 1872.

1. **Stropharia cubensis** Earle, Inf. An. Estac. Centr. Agron. Cuba **1**: 240. 1906.
On manure, Porto Rico:—Cuba.

23. **TRICHOLOMA** Quél. Champ. Jura Vosg. 38. 1872.

1. **Tricholoma dichropus** (Fries) Sacc. Syll. Fung. **5**: 117. 1887.
Agaricus dichropus Fries, Nova Acta Soc. Sci. Upsal. III. **1**: 22. 1851.
Melanoleuca dichropus (Fries) Murrill, Mycologia **3**: 193. 1911.
Described from St. Thomas:—endemic.
Dr. Murrill records all the available information concerning this plant in Mycologia **3**: 193–194. 1911.

Tribe 2. GASTEROMYCETES.

Hymenium (basidial layer) covered, either indefinitely or at least until the spores are ready for distribution.

This class includes all of those fungi commonly known as puffballs, stinkhorns, bird's nest fungi, etc., in all of which the hymenium is developed internally, though in a few, as the stinkhorns, it emerges from the covering (peridium) in time to elevate the mature spores for better distribution.

Plants soft and fleshy, usually enclosed in a gelatinous volva when young, this remaining as a cup at the base of the mature plant; spore-bearing mass deliquescent and mucilaginous, often foetid. Order 1. PHALLALES.

Plants small and cup-shaped or urn-shaped, opening at the top and containing seed-like bodies. Order 2. NIDULARIALES.

Plants not entirely as above.

Ripe plant dehiscing at maturity and enclosing a mass of dusty spores, often mixed with capillitial threads; terrestrial or wood-inhabiting. Order 3. LYCOPERDALES.

Ripe plants not as above; subterranean fungi; indehiscent; no capillitium present. Order 4. HYMENOGASTRALES.

Order 1. PHALLALES.

Plants latticed or irregularly branched, sessile or stalked; gleba on the internal faces of the spore-bearing portion. Fam. 1. CLATHRACEAE.

Plants tubular or cylindric, capitate, the gleba external or becoming so. Fam. 2. PHALLACEAE.

Family 1. Clathraceae.

1. CLATHRUS (Mich.) L. Sp. Pl. 1179. 1753.

1. **Clathrus cancellatus** L. Sp. Pl. 1179. 1753.

On the ground, Porto Rico:—subtropical North America; southern Europe; northern Africa; rare.

The species was reported from the Sintenis collection and was collected by Whetzel and Kern in 1924, the latter specimen determined by Lloyd.

3. **Clathrus crispus** Turpin, Dict. Sci. Nat. Atlas Veg. Acotyl. *pl. 48.* 1821.

On the ground, Porto Rico, Santo Domingo:—tropical America.

2. LATERNEA Turpin, Dict. Sci. Nat. 25: 248. 1822.

1. **Laternea columnata** Nees & Henry, Syst. Pilze 13. 1858.

Reported from the Sintenis collection but not otherwise known; Porto Rico:—North and South America.

2. **Laternea triscapa** Turpin, Dict. Sci. Nat. 25: 248. 1822.

On garden soil, Porto Rico:—Santo Domingo; Cuba; Java.

3. LYSURUS Fries, Syst. Myc. 2: 285. 1823.

1. **Lysurus borealis** (Burt) Lloyd, Myc. Notes 1: 183. 1904.

Anthurus borealis Burt, Mem. Boston Soc. Nat. Hist. 3: 504. 1894.

On sandy soil, Porto Rico:—continental North America and Europe. Collected by Margaret S. Brown, *5911*, in 1922.

Family 2. **PHALLACEAE.**

Two genera are known from the region, *Dictyophora* and *Mutinus*, the former with a distinct pileus on which the spore mass is produced, the latter a simple hollow stem with the spore mass on the upper part.

1. **DICTYOPHORA** Desv. Jour. de Bot. **2**: 92. 1809.

1. **Dictyophora indusiatus** (Vent.) comb. nov.

Phallus indusiatus Vent. Mem. Inst. Nat. Sci. Arts, Math. Phys. **6**: 520. 1798.

Dictyophora phalloidea Desv. Jour. de Bot. **2**: 92. 1809.

On soil, Porto Rico:—widely distributed.

2. **MUTINUS** Fries, Summa Veg. Scand. 434. 1849.

1. **Mutinus caninus** (Huds.) Fries, Summa Veg. Scand. 434. 1849.

Phallus caninus Huds. Fl. Angl. 630. 1798.

On the ground, Porto Rico:—continental America; Europe.

Order 2. **NIDULARIALES.**

The order contains a single family, Nidulariaceae.

Family 1. **NIDULARIACEAE.**

But a single genus, *Cyathus*, has been reported from the region. *Nidularia* is the only other genus with a distribution that would render it likely that it might be found. *Nidularia* is easily separated from *Cyathus* in that the cups are globose rather than urn-shaped, and the peridioles (seed-like bodies within the cups) are not attached by cords (funiculi) to the wall of the cup as in *Cyathus*.

1. **CYATHUS** Heller, Hist. Stirp. Helv. **3**: 127. 1768.

1. **Cyathus costatus** Lloyd, sp. nov.

On manure, Porto Rico:—endemic.

The species is to be published by Lloyd in Mycological Notes, from Fink's collections in 1915–16.

2. **Cyathus Earlei** Lloyd, The Nidulariaceae 26. 1906.

On dead wood, Porto Rico:—Cuba; Hawaii.

3. **Cyathus fimicola** Lloyd, sp. nov.

On manure, Porto Rico:—endemic.

The species is to be described by Lloyd in Mycological Notes, from Fink's collections in 1915–16.

4. **Cyathus Hookeri** Berk. in Hooker's Jour. Bot. **6**: 204. 1854.

On the ground, Porto Rico:—India.

The species was determined by Lloyd from Fink's collections in 1915–16. I believe there are other stations represented in the Lloyd Museum but I did not make note of them.

5. **Cyathus microsporus** Tul. Ann. Sci. Nat. III. **1**: 73. 1844.

On dead wood, Porto Rico:—tropical America.

Among others, a collection, *9050*, by Stevens in 1915, and one, *659*, by Seaver and Chardon in 1923, are referred here after comparisons in the Lloyd Museum.

6. **Cyathus Montagnei** Tul. Ann. Sci. Nat. III. **1**: 70. 1844.

On the ground, Porto Rico:—Brazil.
The plants were determined by Lloyd from Fink's collections in 1915–16, *708*.

7. **Cyathus pallidus** Berk. & Curt. Jour. Linn. Soc. **10**: 340. 1868.

On wood, Porto Rico:—Cuba.

8. **Cyathus Poeppigii** Tul. Ann. Sci. Nat. III. **1**: 77. 1844.

On the ground and on wood, Porto Rico:—Cuba; South America.

9. **Cyathus stercoreus** (Schw.) De-Toni in Sacc. Syll. Fung. **7**: 40. 1888.

Nidularia stercorea Schw. Trans. Am. Phil. Soc. II. **4**: 253. 1832.

On the ground and on wood, Porto Rico:—Europe; continental North America; Africa.

10. **Cyathus triplex** Lloyd, The Nidulariaceae 23. 1906.

On sticks, St. Thomas:—Mauritius.

11. **Cyathus striatus** (Huds.) Hoffm. Veg. Crypt. **2**: 33. 1790.

Peziza striata Huds. Fl. Angl. 634. 1778.

On the ground and on wood, Porto Rico:—Europe; continental North America; Africa.

Order 3. LYCOPERDALES.

Capillitium none; plants very small, wood-inhabiting, more or less gelatinous.	Fam. 1. Sphaerobolaceae.
Capillitium none; plants ground-inhabiting; not gelatinous.	Fam. 2. Sclerodermaceae.
Capillitium present, mixed with the spores; mostly ground-inhabiting; not at all gelatinous.	Fam. 3. Lycoperdaceae.

Family 1. SPHAEROBOLACEAE.

The family contains a single genus *Sphaerobolus*, of uncertain affinities.

1. SPHAEROBOLUS Tode, Fungi Meckl. **1**: 43. 1790.

1. **Sphaerobolus stellatus** Tode, Fungi Meckl. 1: 43. 1790.

On cane trash and on rotten wood, Porto Rico:—widely distributed.

Family 2. SCLERODERMACEAE.

A single genus *Arachnion* has been reported from the region. The interior is ash-colored and the plants less than 1 cm. diameter. The genus *Scleroderma* also occurs, but the specific identity of the collections has not been determined. In *Scleroderma* the interior is dark-colored from a very early stage.

1. ARACHNION Schw. Schr. Nat. Ges. Leipzig **1**: 59. 1822.

1. **Arachnion album** Schw. Schr. Nat. Ges. Leipzig **1**: 59. 1822.

On the ground, Porto Rico:—continental North and South America.

Family 3. **LYCOPERDACEAE.**

1. **CATASTOMA** Morgan, Jour. Cin. Soc. Nat. Hist. **14**: 142. 1892.

1. **Catastoma anomalum** (Cooke & Massee) Lloyd, Lycoperd. Austral. 27. 1905.

Bovista anomalum Cooke & Massee, Grevillea **18**: 6. 1889.

On the ground, Porto Rico, Santo Domingo; Australia.
This rare species, known hitherto only from Australia, was collected by N. L. and E. G. Britton in 1924, *8021*. The species was determined for me by Lloyd who regards it as the only *Catastoma* with a definite protruding mouth, resembling the mouth of a *Geaster*.

2. **Catastoma circumscissum** (Berk. & Curt.) Lloyd, Myc. Notes **1**: 78. 1901.

Bovista circumscissa Berk. & Curt. Grevillea **2**: 50. 1873.

On lawn, Porto Rico:—temperate and tropical regions.
A collection by Earle in 1921 has the spores 4–6 μ diameter and slightly echinulate, agreeing with those of this species rather than with *C. subterraneum*, which Lloyd reports as with spores 6–8 μ diameter.

2. **DIPLOCYSTIS** Berk. & Curt. Jour. Linn. Soc. **10**: 344. 1868.

1. **Diplocystis Wrightii** Berk. & Curt. Jour. Linn. Soc. **10**: 344. 1868.

On the ground, Porto Rico; St. Croix:—Cuba; Bahamas.
The remains of this rather common species appear as a coarse honeycomb-like mass several inches in extent on dry ground.

3. **GEASTER** Micheli, Nov. Pl. Gen. 220. 1729.

1. **Geaster Dybowski** Pat. Bull. Soc. Myc. Fr. **18**: 300. 1902.

On the ground, Porto Rico:—Oubangui.
The species was determined by Lloyd from Fink's collections in 1915–16.

2. **Geaster Lloydii** Bres. & Pat. in Lloyd Myc. Notes **1**: 50. 1901.

On root of upturned tree, Porto Rico:—Samoa.
The plants were determined by Lloyd from Fink's collections in 1915–16, *520*.

3. **Geaster Hariotii** Lloyd, Myc. Notes **2**: 311. 1907.

On the ground, St. Thomas:—South America.

4. **Geaster mirabilis** Mont. Ann. Sci. Nat. IV. **3**: 139. 1855.

On the ground, Porto Rico:—continental North America; Ceylon; Africa.

5. **Geaster saccatus** Fries, Syst. Myc. **3**: 16. 1829.

On the ground, Porto Rico:—cosmopolitan.

6. **Geaster striatulus** Kalchbr. Grevillea **9**: 3. 1880.

On the ground in pastures, Porto Rico:—Florida.
After microscopic comparisons at the Lloyd museum, I refer here with considerable certainty a collection by Earle in 1922. The mouth of the inner peridium is beautifully sulcate. Spores 5–6 μ.

7. **Geaster subiculosum** Cooke & Massee, Grevillea **15**: 97. 1887.

On the ground, Porto Rico:—Australia.
Four collections made by Fink, *1271*, in 1915–16 are referred here by Lloyd, though the species is not listed in his monograph, The Geastrae.

8. **Geaster velutinus** Morgan, Jour. Cinn. Soc. Nat. Hist. **18**: 38. 1895.

On the ground, Porto Rico:—continental North America.

4. **LYCOGALOPSIS** Fischer, Ber. Deuts. Bot. Ges. **4**: 192. 1886.

1. **Lycogalopsis subiculosum** Lloyd, sp. nov.

On dead wood, Porto Rico.
The plants were determined by Lloyd from Fink's collections in 1915–16.

5. **LYCOPERDON** (Tourn.) L. Sp. Pl. 1183. 1753.

1. **Lycoperdon albinum** Cooke, Jour. Roy. Mic. Soc. 1887: 723.

On the ground, Porto Rico:—Brazil.
Specimens of this species were determined by Lloyd.

2. **Lycoperdon cruciatum** Rostk.; Sturm, Deuts. Fl. Pilze **5**: 19. 1844.

On soil and on rotten wood, Porto Rico:—Europe; continental North America.

3. **Lycoperdon fimicola** Lloyd, sp. nov.

On manure, Porto Rico:—endemic.
The species is to be described by Lloyd in Mycological Notes, from specimens in Fink's collections of 1915–16.

4. **Lycoperdon fuligineum** Berk. & Curt. Jour. Linn. Soc. **10**: 345. 1868.

On very rotten wood, Porto Rico:—Cuba; Florida; Brazil.
A collection made by Earle, *293*, in 1920 is referred here after comparisons in the Lloyd Museum. Also one by Britton and Cowell, *3125*, collected in 1914.

5. **Lycoperdon pyriforme** Schaeff. Ic. Myc. *pl. 185*. Ind. 128. 1774.

On the ground, Porto Rico:—cosmopolitan.

6. **Lycoperdon pusillum** Batsch, Elench. Fung. **2**: 123. 1789.

On humus and cane trash, Porto Rico:—cosmopolitan.

7. **Lycoperden Wrightii** Berk. & Curt. Grevillea **2**: 50, 1873.

On the ground, Porto Rico:—continental North America.
A collection by Stevenson, *7014*, in 1915.

6. **TYLOSTOMA** Pers. Syn. Fung. 139. 1801.

1. **Tylostoma Berkeleyi** Lloyd, The Tylostomeae 25. 1906.

On ground, Porto Rico:—subtropical America.
A single collection made by E. G. & N. L. Britton in 1924, *8018*, is referred here with some apprehension after comparisons in the Lloyd Museum.

2. **Tylostoma exasperatum** Mont. Pl. Cell. Cuba 317. 1856.

On dead wood, Porto Rico:—Cuba, Ceylon.

3. **Tylostoma volvulatum** Borsch; Sorokin, Rev. Myc. **12**: 50. 1890.

On the ground, Porto Rico:—Africa.

The species is admitted on the determination of Coker. It was collected by Seaver and Chardon, *142*, in 1923.

ADDENDA.

Amphinectria portoricensis Speg. Bol. Acad. Nac. Ci. Cordoba **26**: 346. 1924.
On *Comocladia glabra* (Schultes) Spreng., Porto Rico:—endemic.
(Insert before *Calonectria* page 41.)

Coniothyrium concentricum (Desm.) Sacc. Michelia **1**: 204. 1884.
Phoma concentrica Desm. Ann. Sci. Nat. II **13**: 189. 1840.
On *Yucca aloifolia* L.; Porto Rico:—Europe; West Indies.

Perisporium Bromeliae Stevens, Trans. Ill. Acad. Sci. **10**: 168. 1917.
On *Bromelia Pinguin* L. Porto Rico:—endemic.
(Insert after *Perisporina*, page 38)

In addition to the slime-molds listed the following additional species have been collected by Mr. Robert Hagelstein during January and February, 1926: **Comatricha irregularis** Rex; **Cribraria intricata** Schrad.; **Cribraria violacea** Rex; **Diderma hemisphericum** (Bull.) Horne; **Lamproderma arcyrionema** Rost.; **Lamproderma violaceum** (Fries) Rost.; **Ophiotheca Wrightii** Berk. & Curt.; **Physarum nutans** Pers.; **Physarum polycephalum** Schw.; **Physarum reniforme** (Mass.) Lister; **Physarum sessile** Brandza; **Stemonitis hyperopta** Meyl.

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